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Applying a Multi-Skilled Soldier (MSS) Concept to the Stryker Brigade Combat Team (SBCT)

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United States Army Research Institute for the Behavioral and Social Sciences

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14. ABSTRACT *(Maximum 200 words)*:

The general purpose of this study was to deepen and broaden thinking about the nature and implications of possible Multi-Skilled Soldier (MSS) Concept implementation. Specific objectives were (1) to determine applicability of the MSS to the Stryker Brigade Combat Team (SBCT), as it might be implemented in Initial Entry Training (IET) and (2) to prototype MSS Concept implementation for the SBCT, considering possible implementation for the Future Force. The report also defines the MSS; shows how the MSS Concept might fit conceptually within a larger Army training, education, and professional development model for Soldiers of all ranks; offers an MSS Program design for IET; and crafts actionable recommendations regarding general MSS implementation for IET. The study concludes that the MSS Concept is fully applicable to the SBCT, as well as the so-called Current Force. It also concludes that MSS implementation would have a significant salutary effect on unit training readiness postures across the force. This study relied heavily on insights and analysis gained from interviews with groups of senior NCOs and officers within the 3rd Brigade (SBCT), 2nd Infantry Division, Ft. Lewis, WA, during September 2002.

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Applying a Multi-Skilled Soldier (MSS) Concept to the Stryker Brigade Combat Team (SBCT)

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FOREWORD

The mission of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is to maximize individual and unit performance and readiness to meet the full range of worldwide Army missions through advances in the behavioral and social sciences. ARI is the Army's primary laboratory conducting research and analysis on personnel performance and training. Our focus is on the human element in the Army. Our research and analysis contribute to the entire life cycle of recruiting, selection, assignment, training and mission performance. ARI also provides new technology to meet the personnel and training challenges of the Army, conducts studies and analyses to address short-term issues, responds to emerging "hot topics" and provides technical assistance on critical issues affecting all parts of the Army.

During the fall of 2001, the Personnel Proponency Directorate (PPD), Deputy Chief of Staff, Operations and Training, U.S. Army Training and Doctrine Command (TRADOC), Ft. Monroe, Virginia asked ARI to explore the nature of the Multi-Skilled Soldier (MSS) Concept and its implications for the Army. The resulting report, *The Multi-Skilled Soldier Concept: Considerations for Army Implementation* (Nelsen and Akman, 2002), analyzed the meaning and planning considerations of the MSS Concept relative to possible Army-wide implementation, with particular emphasis on the Future Force.

In the spring of 2002, TRADOC's Personnel Proponency in the Office of the Deputy Chief of Staff, Operations and Training, asked ARI to conduct a follow-on study to assess the applicability of the MSS Concept to the emerging Stryker Brigade Combat Teams (SBCT). Specifically, we were asked to determine whether the MSS Concept could be prototyped in Initial Entry Training (IET) for the SBCT. Behind this assignment was the additional thought that applicability to the SBCTs in the near term might provide insights on potential applicability to the Future Force in the long term.

The report defines the MSS, offers a larger conceptual framework, develops a program design, concludes that the MSS Concept is applicable to SBCTs, and proposes a prototype for the SBCT.

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The authors also wish to recognize Dr. Kathy Quinkert from ARI's Scientific Coordination Office at TRADOC Headquarters for her particularly salient contributions. She facilitated timely, multi-faceted interactions with the TRADOC staff and provided invaluable updates, insights, suggestions, and leads from both the TRADOC and ARI perspectives.

We are especially grateful to COL John H. Bone, Mr. Jeff Colimon, and the rest of the staff of the PPD, Office of the Deputy Chief of Staff, Operations and Training, TRADOC, Ft. Monroe, Virginia. COL Bone and his office sponsored this study for ARI, hosted several in-progress reviews, and orchestrated superb, broad-based feedback throughout the project.

Finally, the authors wish to express their profound gratitude to Drs. Frank Moses and Elizabeth Brady of ARI, who directed and facilitated this study in a most admirable and collegial fashion. Their guidance, support, assistance, cooperation, and insights helped enormously to advance this study in an impressively smooth, reasonable, rigorous, and deliberate manner.

APPLYING THE MULTI-SKILLED SOLDIER (MSS) CONCEPT TO THE STRYKER BRIGADE COMBAT TEAM (SBCT)

EXECUTIVE SUMMARY

Research Requirement:

This study report is part of a larger project involving continued investigation of the applicability of the Multi-Skilled Soldier (MSS) Concept to the future Army. This project was, in effect, Phase II of what has developed into a multi-project effort. Both projects were conducted under the direction of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) at the request of Personnel Proponency Directorate (PPD), Office of the Deputy Chief of Staff, Operations and Training, U.S. Army Training and Doctrine Command (TRADOC), Ft. Monroe, Virginia. The purpose of the Phase I project, which concluded in March 2002, was to analyze the implications of the MSS Concept and to assess considerations for Army-wide implementation. The intent of the Phase II project, commencing in April 2002, was to deepen and broaden thinking about the nature and implications of MSS Concept applicability. The target audience for this report is the Army Leadership in general, and the leaders of the Army's Personnel and Training Communities. This study report focuses principally on two aspects of the MSS Concept: determining applicability of the MSS Concept to the Stryker Brigade Combat Team (SBCT), and prototyping how the Army might implement the MSS Concept in Initial Entry Training (IET) for the SBCT. The Study Team (ST) also sought to craft actionable recommendations; show how the MSS Concept might fit within a larger Army education, training, and professional development model for all Soldiers; and recommend a specific definition for the MSS.

Procedure:

This study relied heavily on seminar-like interviews conducted in September 2002 with groups of senior Non-Commissioned Officers (NCO) and officers from representative units in the 3rd Brigade (SBCT), 2nd Infantry Division, Ft. Lewis, Washington. These sessions focused on exploring options for Soldier multi-skilling, assessing the associated value-added, and identifying recommended, mission-enhancing MSS skill sets for each mainstream Military Occupational Specialty (MOS) across the brigade. The ST also interviewed key members in the Brigade Coordination Cell (BCC) at Ft. Lewis to identify SBCT training readiness challenges and to explore the implications of MSS Concept applicability for SBCTs in general. The ST also met with the Commanding General, U.S. Army Ordnance Center and Schools, and with key staff members at the U.S. Army Combined Arms Support Command (CASCOM).

Findings:

Consistent with generally accelerated transformation efforts, the Army is well postured to broaden its search for a conceptual foundation to support the human dimension of the Future Force. While the findings reflect this report's primary focus on investigating the applicability of the MSS Concept to the SBCTs, they have been reached with an eye toward framing actionable options for the evolution of the Future Force. The ST makes the following recommendations to the Army Leadership:

- Adopt the proposed MSS definition and associated MSS Concept as a starting point for action.
- Consider applying the prototyped MSS design for IET developed in this study for the SBCT more generally across the Current Force (inclusive of the SBCTs)
- Design and implement a pilot program for IET to test and refine the MSS Concept and to develop solutions to the challenges and obstacles faced by the training base.
- Develop a Master Implementation Plan that incorporates the MSS Concept into IET, based on experiences in MSS pilot programs.

Utilization of Findings:

If future Soldiers across the force will be at least partially characterized as multi-skilled, the Army must move out swiftly to test, assess, and implement an MSS Concept, not just for the SBCT units, but also for the remaining elements of the Current Force. The proposed MSS Program design, the overarching conceptual framework, and the prototype developed for the SBCT presented in this report are intended to advance the general discussion about future Soldier multi-skilling and implementation approaches. By intent, the thrust of this study has oriented on two major assumptions: that multi-skilling designs should orient on operational needs and that they should embrace evolutionary, adaptable application. The actionable recommendations in this report support the near-term establishment of an MSS Program for existing forces that can be adapted, as required, in creative ways as the Future Force evolves.

APPLYING THE MULTI-SKILLED SOLDIER CONCEPT TO THE STRYKER BRIGADE COMBAT TEAM (SBCT)

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INTRODUCTION

Background, Purpose, and Guidance

This study report is part of a larger project involving continued investigation of the applicability of the Multi-Skilled Soldier (MSS) Concept to the future Army. This project was, in effect, Phase II of what has developed into a multi-project effort to assess the MSS Concept and determine its potential applicability across the force. Both projects were conducted under the direction of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) at the request of the Personnel Proponency Directorate (PPD), Office of the Deputy Chief of Staff, Operations and Training, U.S. Army Training and Doctrine Command (TRADOC), Ft. Monroe, Virginia. The Phase I project culminated in a study report entitled, *The Multi-Skilled Soldier Concept: Considerations for Army Implementation* (Nelsen and Akman, 2002). The purpose of the Phase I project was to analyze the implications of the MSS Concept and to assess the considerations for Army-wide implementation in order to provide the basis for the Army to make decisions whether or not to proceed with realization of the MSS Concept and, if so, how. That study reached conclusions and recommendations relative to setting the stage for further development and possible implementation of the MSS Concept. Those conclusions and recommendations can be found in Appendix E.

The intent of the Phase II project, which commenced in April 2002, was to deepen and broaden thinking about the nature and implications of potential MSS Concept implementation. This study report focuses principally on two aspects of that effort:

- Determining the applicability of the MSS Concept to the Stryker Brigade Combat Team (SBCT), as it might be implemented in Initial Entry Training (IET)
- Prototyping how the Army might implement the MSS Concept in IET for the SBCT, with an eye toward implementation across the Future Force.

The Study Team (ST) received additional amplifying guidance, as follows, once the project was underway:

- Craft actionable recommendations wherever possible regarding MSS Concept implementation for the SBCT
- Recommend a specific definition for the MSS
- Show how the MSS Concept might fit within a larger Army education, training, and professional development model for Soldiers of all ranks.

The target audience for this report is the Army Leadership in general, and the leaders of the Army's Personnel and Training Communities in particular. It is they who

must ultimately make the major decisions about the MSS Concept for the Army and who must assess the conclusions and recommendations of this report.

Methodology

The ST initially researched the history, organizational structure, operational concepts, personnel structure, challenges, and lessons learned to date regarding the ongoing fielding process for the Army's first SBCT. As part of this effort, the staff of Combined Arms Support Command (CASCOM) briefed the ST on the full range of combat service support (CSS) concepts applicable to SBCT operations. These briefings were especially important since SBCT support concepts and approaches differ in many respects from those for traditional, or so-called Current Force units.

In September, 2002, the ST then traveled to Ft. Lewis, Washington, where it conducted a weeklong site visit with the above-mentioned SBCT, the 3rd Brigade of the 2nd Infantry Division.[1] During that visit, its members conducted a series of seminar-like group interviews involving senior Non-Commissioned Officers (NCO) and company grade officers from representative units across the brigade. These sessions focused on exploring options regarding approaches to future Soldier multi-skilling, assessing the potential value-added to their units from such multi-skilling, and identifying additional skill task sets for each mainstream Military Occupational Specialty (MOS) across the brigade that would most contribute to mission effectiveness. While at Ft. Lewis, the ST also interviewed selected key members on the Brigade Coordination Cell (BCC)[2] staff on the difficulties and challenges faced by the 3rd Brigade, 2nd Infantry Division, over the past year and explored their perspectives on what impacts MSS Concept implementation might have on SBCTs.

Shortly thereafter, the ST visited the Commanding General, U.S. Army Ordnance Center and Schools, MG Mitchell H. Stevenson, at Aberdeen Proving Ground, Maryland, in October 2002 at the request of his staff. This visit focused on discussing the definition of the MSS and its potential impact on that portion of the training base responsible for the structure, training, and professional development of the many ordnance MOS.

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[1] At the time of the site visit (9-13 September 2002), this SBCT had been organized for approximately 3500 Soldiers. It had just completed intense field training exercises throughout the summer of 2002, including participation in the Joint Exercise Millennium Challenge 2002. Furthermore, the brigade had just completed training on its newly received Stryker Combat Vehicles. In short, this SBCT had been formed for a considerable period of time, in which they had conducted significant individual and collective training and had done so with a minimum of personnel turmoil for almost two years.

[2] The BCC is a TRADOC cell stationed at Ft Lewis intended to assist in fielding efforts of the SBCTs. They assist in areas that include training, concept development, contractor support oversight, and fielding coordination support. The BCC commander is a Brigadier General who carries the title of Deputy Commanding General (Transformation), TRADOC.

In this fashion, the ST members were able to determine where multi-skilling would be particularly effective in enhancing SBCT unit performance and readiness, MOS by MOS, as well as the implications for MSS implementation for the training base. This approach allowed the ST to prototype the SBCT for MSS Concept implementation in IET.

Conclusions and Recommendations

The conclusions and recommendations of this report are summarized in Table 1. The remainder of the report will present the supporting data and arguments and amplify the underlying rationale for the approaches taken in defining and developing the MSS Concept.

Table 1
Conclusions and recommendations

Conclusions	Recommendations
The MSS Concept remains a highly ambiguous and imprecise notion across the Army, even though Soldier multi-skilling is regularly touted in design documents as a fundamental attribute of the Future Force Soldier. Different people interpret the MSS Concept in quite different ways because there is no authoritative definition.	Adopt the proposed MSS definition and associated MSS Concept as a starting point for action.
The MSS Concept, as envisioned by the Study Team for IET, is fully applicable to the SBCT and would significantly enhance unit training and readiness postures.	Consider applying the prototyped MSS design for IET developed in this study for the SBCT more generally across the Current Force (inclusive of the SBCTs).
Most of the challenges and obstacles to implementing the MSS Concept in IET reside in the training base.	Design and implement a pilot program for IET to test and refine the MSS Concept and to develop solutions to the challenges and obstacles faced by the training base.
The MSS Concept, if implemented in IET, would have an immediate, positive effect on unit training and readiness across the Total Force.	Develop a Master Implementation Plan that incorporates the MSS Concept into IET, based on experiences in MSS pilot programs.

Structure of the Report

The next section suggests how the MSS Concept might fit within a larger Army model for education, training, and professional development across the force. As part of this discussion, the ST will offer a definition of the MSS. In the following section, the study zeroes in on the MSS Concept for IET, suggesting a broad range of considerations for implementation. The study then focuses on the results of the visit to the Army's first SBCT, the 3rd Brigade, 2nd Infantry Division, at Ft. Lewis, Washington. This section concludes with an assessment of the applicability of the MSS Concept in IET for the SBCT and with a prototype model for such implementation. In the following section, the study then addresses the challenges to the MSS Concept and possible workarounds to challenges, anticipated and otherwise. The next succeeding section looks beyond the SBCT to suggest how the MSS Concept in IET could be used to help pave the way for evolving new MOS connected with the Future Force. Finally, the last section discusses at greater length the study's conclusions and recommendations.

A LARGER CONCEPTUAL FRAMEWORK

As the ST members conducted their interviews and presented their notions of the MSS Concept at TRADOC Headquarters and around the Army, many people had difficulty seeing how the implementation of this concept might work relative to a larger framework for Soldier training, education, and professional development across all ranks. In fact, the lack of such an officially proposed or approved framework became a significant impediment to meaningful discussion. In short, most wanted to see the larger picture in which the MSS Concept might operate before they were willing to explore that concept, or any similar concept, at length. At the same time, they generally wanted to see how a number of current initiatives under consideration for possible implementation by the Army leadership might relate to the MSS Concept. Absent such linkages, most seemed exceptionally reluctant to devote the precious time needed for an in-depth assessment of this concept's merits and implications. As a result, the ST developed a strawman framework to serve as a larger context in which to consider the MSS Concept developed in this report.

This framework is not authoritative. The ST developed the framework based on its understanding of current thinking within the Army about transformation and future Soldier professionalism. In addition, the framework seeks to address the potential relationship of the MSS Concept with many personnel and training initiatives currently under consideration. The primary purpose of this framework is illustrative — to stimulate the discussion about the MSS Concept in the context of a plausible scheme for future Soldier training, education, and professional development.

Figure 1 depicts the proposed strawman framework. In this framework, the MSS is only one piece of a larger construct. The overarching concept for the entire framework is a concept for the Future Force Soldier, which the ST labeled "the Multi-Capable Soldier." In so doing, the ST recognized fully that this was a placeholder term, pending the authoritative Army selection of the actual concept and term to be used. During the past year, several candidate concepts and terms have been informally suggested and discussed without decision.[3] Other candidates are sure to emerge in the coming months and years.

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[3] Such as Land Warrior and Soldier as a System.

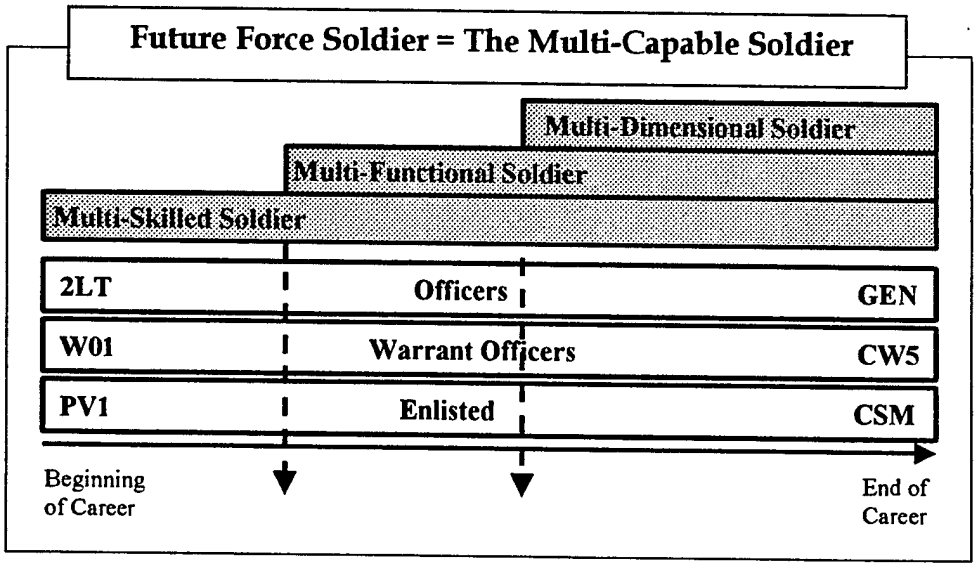

Figure 1. The Multi-Capable Soldier framework

The Multi-Capable Soldier is characterized as one who is trained, educated, and developed to operate proficiently in increasingly complex environments. As shown in Figure 1, the Multi-Capable Soldier concept applies to Soldiers of all ranks—officers, warrant officers, and enlisted Soldiers. In this context, the Army would train, educate, and develop all Soldiers progressively and additively, focusing first on building Multi-Skilled Soldiers, then on building Multi-Functional Soldiers, and lastly on building Multi-Dimensional Soldiers.

Definitions

The Multi-Skilled Soldier is the foundation of the entire Multi-Capable Soldier Concept. It is defined as a Soldier who is trained, developed, and educated with skill sets[4] beyond those common to his or her MOS that are needed to operate proficiently in increasingly complex environments. Training to become an MSS begins in Initial Military Training (IMT) for all ranks and continues throughout a Soldier's entire career. Initially, multi-skilling is operationally oriented to provide increased individual skill set depth and redundancy for unit mission accomplishment. A preeminent and ubiquitous example in today's Army of such multi-skilling involves Combat Lifesaver training.

[4] The term "skill sets" is used throughout this report to mean groupings of related tasks that enable Soldiers to perform larger functions. In most cases, these functions form distinct subsets of existing MOS task inventories. For example, combat lifesaver training would be categorized as a skill set. It consists of medically related tasks from MOS 91W (Health Support Specialist) that enable a Soldier to perform a discrete function, in this case, to administer advanced first aid to wounded or injured Soldiers under austere conditions.

Soldiers from many MOS are taught advanced lifesaving skill sets [really a subset of MOS 91W (Health Support Specialist)] to provide greater depth and redundancy in advanced combat first aid across the unit. In numerous cases, Soldiers with Combat Lifesaving skill sets have saved the lives of other injured Soldiers, especially in instances where "low-density" unit medics could not reach the injured Soldier in a timely fashion or were otherwise fully engaged in assisting other injured Soldiers.

This kind of multi-skilling exists in today's Army, but most of the training involved is organized and conducted by units in the field, that is, by operational units. In fact, such operational units already bear a heavy burden in conducting a broad range of multi-skilled training for their Soldiers. The intent of the MSS Concept is to transform the MSS Concept into a formal professional development program with more precisely delineated responsibilities between operational units and TRADOC for administering it. In effect, the schoolhouse would relieve some of the burden from operational units for conducting individual training, particularly that involving cross-training with skill sets outside Soldiers' primary MOS, so that such units could devote more quality time to collective training, thereby enhancing mission readiness.

The concept, however, requires TRADOC to conduct MSS training as part of IMT for Soldiers of all ranks. TRADOC would also design and administer distributed learning programs to help maintain and advance proficiency in the additional skill sets after IMT. At the same time, leaders in the field would provide their Soldiers the counseling and motivation to complete such courses after IMT. As the Soldier would progress in rank, an increasing portion of MSS-oriented education and training would involve those additional skill sets that support the notion of the Multi-Functional Soldier and the Multi-Dimensional Soldier.

The Multi-Functional Soldier is defined as a Soldier with sufficient MOS proficiency, multi-skilling, and experience to apply skills and knowledge across a broad range of different, challenging situations. Inherent in this level is an adaptability of skill sets and knowledge for specific mission and environmental situations. Multi-Functional Soldiers enable units to transition smoothly from one type of mission to another across the range of military operations, thereby contributing to the effectiveness of multi-functional units. Many interviewed during this study expressed the strong conviction that the Multi-Functional Soldier – the human ingredient – would be the critical enabler in forging true multi-functional units. In incorporating the Multi-Functional Soldier into this model, the ST subscribed to the philosophy that Multi-Functional Soldiers, first and foremost, build successful multi-functional units.

The need to focus particular attention in developing effective multi-functional units across the force has been a consistent theme in Future Force documents and

literature.[5] In effect, the ability to exhibit effective unit multi-functionality seems to have risen to the level of a requirement for the Future Force. An example of a multi-functional situation in this regard occurred recently during the Iraqi War. In securing inroads into Baghdad, U.S. Soldiers of the Third Infantry Division were engaged in intensive combat with enemy forces mounting stiff resistance. At the tactical level, units employed as much firepower as necessary to overwhelm enemy forces and maintain the momentum of the attack. A few days later, however, organized enemy resistance had collapsed, and those same Soldiers had to exhibit behavior more reminiscent of stability operations than combat operations. They were suddenly involved in civil crowd control to counteract general lawlessness and looting while providing security patrols intended to protect the civilian populace as much as friendly forces. The Soldiers were abruptly required to exercise the kind of restraint, in terms of rules of engagement, that one might observe of peacekeepers in Bosnia or Kosovo. This situation represented a remarkably dramatic transition from one kind of operation to another across the range of military operations. Many who write about future military operations appear to second the Army view that such situations will be encountered with increased frequency and that they should be anticipated as a fundamental challenge (Peters, 1998). One could easily conclude that the consistent reference to the need for multi-functional unit capability in the Future Force rises to the level of an implied operational design requirement.

Building Multi-Functional Soldiers has never been a simple endeavor. To do so as part of a formal approach to training, education, and professional development promises to be not only a truly daunting task, but also a dynamically transformational one. The ST and those interviewed generally believe that developing Multi-Functional Soldiers is largely a matter of experience, inclusive of the developed ability to reflect upon, learn from, and creatively apply the lessons learned from those experiences adaptively to new situations and circumstances as a near-instinctive approach. A competency-based approach to training, educational, and professional development would greatly stimulate Soldiers to think adaptively and creatively in applying their

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[5] For example, the draft Capstone System Training Plan for the Unit of Action (Unit of Action Maneuver Battle Lab, 2002) states on page 30, "[Leaders and Soldiers] must know how to conduct rapid tactical decision-making, be multi-skilled and multifunctional, capable of transferring warfighter skills to non-warfighting missions and routinely understand the commander's intent at tactical, operational, and strategic levels." In addition, the TRADOC Pamphlet 525-66, Force Operating Capabilities (Department of the Army [DA], 2003) states on page 18, "Battle command, at all echelons within the Objective Force, requires the following capabilities...Improved horizontal integration of information, based upon multifunctional staff officers in non-traditional staff organizations."

skills and experiences to differing situations.[6] For example, conducting a patrol or operating a checkpoint under intense combat conditions is quite different than doing them in a peacekeeping or peace enforcement operation. But there is only enough time in IMT to teach Soldiers how to perform in those tasks under combat conditions, arguably the most demanding of the possible sets of circumstances. Soldiers must learn to adapt what they have learned for generic situations, usually combat situations, to the unique circumstances that actually confront them in the field.

When would the Soldier start along the trail toward becoming a Multi-Functional Soldier? The ST believes that three things must occur before the journey can begin in all earnest. First, the Soldier must master performance of the tasks he or she has been taught initially in IMT in accordance with their uniform conditions and standards. In this regard, the Multi-Functional Soldier continues to build upon past multi-skilling and adds news layers of multi-skilling, largely as a function of experience and additional schooling. Second, the Soldier must have the opportunity to gain experience in applying those tasks in a variety of situations, preferably in diverse circumstances across the range of military operations (e.g., in humanitarian operations, in peacekeeping operations, in combat operations). Third, the Soldier must have the opportunity and encouragement to reflect upon those experiences from an educational perspective of the Multi-Functional Soldier. This would imply that the dynamic step in building the Multi-Functional Soldier would occur in the first level of formal schooling he or she would attend following IMT. For these reasons, the ST concluded that the Multi-Functional Soldier would "kick in" for the enlisted Soldier during the Basic Non-Commissioned Officer Course (BNCOC), for the officer during the Command and General Staff College (CGSC), and for the Warrant Officer during the Advanced Course.

The Multi-Dimensional Soldier is defined as a Soldier with sufficient experience and competencies to perform successfully at the higher end of the staff and leadership positions in which he or she could serve. Typically the Multi-Dimensional Soldier can integrate combined arms functions, visualize and account for 2nd and 3rd order effects of actions, appreciate the broader contexts and perspectives of activities and operations, apply unit capabilities across a broad range of potential missions and

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[6] Currently, the Army does not officially define the term "competency-based behavior" or "competency-based training." However, in this context it is frequently used to describe the ability to adapt tasks learned for given conditions and standards and to apply them creatively and perceptively to different conditions and standards to accomplish a mission, deal successfully with challenges and problems, and the like. Competency-based training, education, and professional development would seek to teach Soldiers not only how to perform tasks under a standard set of conditions and standards, but also how to apply the skill sets involved adaptively and creatively to different situations and circumstances to achieve desired results. This requires, among other things, the ability of Soldiers starting with junior leaders to assess their situations, determine rapidly what adjustments may be required, and implement those adjustments effectively and confidently. It also implies that those Soldiers have mastered the performance of the tasks involved under their base conditions and standards. In effect, the adoption of a competency-based approach would require Soldiers of increasingly junior ranks to exhibit leader-like qualities in the areas of assessment, creative application, and adaptability.

situations, develop the same capacities in subordinates, comprehend nuances, and demonstrate accomplished interpersonal skills.

The term "dimension" was chosen because Soldiers at the higher levels of professional development must be capable of performing not only different missions, but also in quite different organizational and conceptual dimensions than they have generally encountered in their careers. Related assignments often involve performance of tasks and duties outside of their established career fields, such as the Joint Staff, the Office of the Secretary of Defense, the Defense Agencies, the Army Staff, combatant commands and their sub-unified subordinate commands, joint task forces, and Major Army Commands (MACOMs). Some assignments may be critical positions on the staffs of other larger Army formations below the MACOM level - such as corps, division, theater army, and field army. Other assignments may involve duty on allied command staffs, such as within NATO, Combined Forces Command, or the North American Aerospace Defense Command (NORAD). The essential notion here is that the Soldier must creatively adapt to the demands of the new organizational environment, demonstrate proficiency in senior leadership and staff skills, quickly master bodies of relevant knowledge to which he or she may never have been previously exposed in any depth, and grasp the cause and effect relationships of potential and ongoing actions from different perspectives.

The Multi-Dimensional Soldier continues to build upon the multi-skilling and multi-functionality that he or she has previously internalized, but now the focus shifts to enabling proficient performance in positions of significantly increased responsibility. In considering the depth of experience, skills, and professional maturity required for the Multi-Dimensional Soldier, the ST believed that this stage of Soldier development would "kick in" as part of the senior educational experience or its equivalent. For enlisted Soldiers, this would begin during the Advanced Non-Commissioned Officer Course (ANCOC), or approximately at the Sergeant First Class level. For officers, this would begin with war college attendance, or approximately at the senior Lieutenant Colonel level rank. For Warrant Officers, this would coincide with the attainment of Chief Warrant Officer, W-3 level.

Developing multi-skilling, multi-functionality, and multi-dimensionality in Soldiers is not new. The Army has traditionally valued and rewarded the qualities involved, especially as they manifest themselves in performance and demonstrated potential for higher responsibility. However the development of Multi-Skilled, Multi-Functional, and Multi-Dimensional Soldiers has been largely a decentralized process, dependent greatly on the Soldier and his or her mentors. Some Soldiers develop these capabilities and some do not. Those who do are rewarded by promotion and selection for positions of greater responsibility. Under the Multi-Capable Soldier framework, the Army would reinforce this process institutionally by making the model a formal, driving force construct for future training, education, and professional development.

Ideally, this approach would lead to bringing a larger percentage of Soldiers up to these higher standards, thereby increasing individual Soldier performance capabilities across the force in a fashion especially pertinent for the future. Again, the ST regarded the major labels used in the Multi-Capable Soldier framework as placeholders. The important part of the framework revolves around the concepts underlying those labels.

Enablers and Enhancers

Two additional constructs are required to round out the Multi-Capable Soldier framework – the notions of an enabler and an enhancer. An enabler is a program, initiative, or development that is essential to making the Multi-Capable Soldier Framework function as envisioned. An enhancer is a program, initiative, or development that facilitates the implementation of the Multi-Capable Soldier Framework, but is not essential to its success. Enhancers are consistent with, and reinforcing to, the purpose of the Multi-Capable Soldier Framework but not a fundamental requirement for its functionality. Figure 2 illustrates some of the more prominent items that could be considered as enablers and enhancers for the framework.

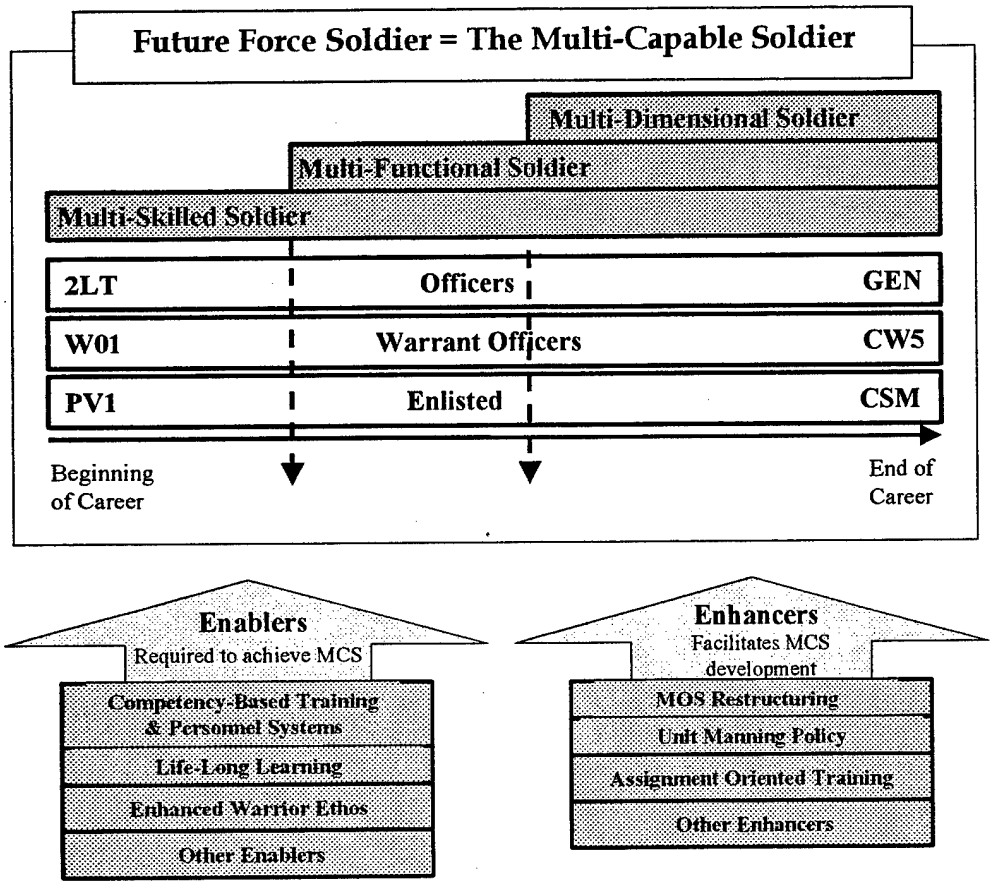

Figure 2. The Multi-Capable Soldier framework with enablers and enhancers

Among those **enablers** are the following: The competency-based approach to training, education, and professional development; enhanced Warrior Ethos; and Life-Long Learning.

As mentioned previously, the competency-based approach is a necessary component to developing the Multi-Capable Soldier, especially the Multi-Functional and the Multi-Dimensional Soldiers. The competency-based approach emphasizes the creative adaptability of already developed skill sets and past experience to new situations and dynamically changing circumstances. The incorporation of the competency-based approach to Soldier training, education, and professional development would be essential to achieving the desired depth and breadth of individual multi-functionality and multi-dimensionality.

The notion of instilling an enhanced Warrior Ethos in the minds of each service member is key to realizing the Multi-Capable Soldier Framework. Under this program, the Army would enhance the mindset that Soldiers are warriors first and foremost, regardless of whether they hold a Combat Arms (CA), Combat Support (CS) or Combat Service Support (CSS) MOS. This mindset is arguably not currently mainstream enough in the Army. Prior to Operation Iraqi Freedom (OIF), many Soldiers, particularly those in CSS jobs felt little likelihood that they would be involved in firefights within close proximity to enemy forces.[7] Achieving this mindset can motivate Soldiers to seek skill proficiency in areas outside of their MOS, see operations in a larger perspective than simple job or duty descriptions, increase survivability on the battlefield, generate increased teamwork, and view professional development in a larger context than progression of skills entirely within one's MOS. Such an impact would be essential to nurturing the values associated with the effective application of multi-skilling, multi-functionality, and multi-dimensionality across the Army.

Life-Long Learning is particularly invaluable to every aspect of the Multi-Capable Soldier Framework. It enables the Multi-Skilled Soldier to maintain, expand upon, and broaden his or her additional skill sets. At the same time, it enables the Multi-Functional and Multi-Dimensional Soldiers to build upon their experiences; see operations, matters, and issues from broadened contexts; and develop hallmark values for continuous reflection and learning.

Among the potential **enhancers** are the following: MOS Restructuring, Unit Manning Policies, and Assignment-Oriented Training (AOT).

In the past few years, the Army has restructured some related MOS in the form of consolidation and has established an aggressive program to pursue additional

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[7] Based on the experience of the ST.

consolidations in the interest of simplifying training and personnel management functions. The MOS consolidation already applied to the enlisted infantry MOS serves as a model for future consolidations. In that example, the following MOS were combined: 11B (Infantryman), 11H (Heavy Anti-Armor Weapons Infantryman) and the 11M (Fighting Vehicle Infantryman). The resulting MOS, called 11B (Infantryman), represents a more generic infantryman. Certainly the notion and value of multi-skilling is inherent in MOS consolidation. The "consolidated Soldier" is, by definition, one who has task training requirements from previously separate MOS to master. The full set of those task lists usually exceeds the ability of his branch to focus on more than a portion of them in IMT. As a result, the responsibility for initially training Soldiers on many of their MOS-specific tasks now falls to the operational units. This considerably increases the units' burden for conducting individual training, often in a zero-sum competition for time in conducting collective training. The MSS Concept in particular can help reduce the burden in such units of conducting required cross-MOS training in such areas as driver training and combat lifesaving so that leaders have more time to focus on filling in the training gaps from IMT regarding MOS-specific tasks. More will be said about this later.

A new Unit Manning and Unit Rotation policy is under consideration for implementation in the Army. While the details remain under development, the general outline calls for units to come together and stay together for a considerable period of time, as long as two to three years. Individual Soldiers would join these units occasionally as replacements for those lost through unavoidable attrition. The intent is to build highly cohesive units that can achieve higher levels of proficiency and teamwork than the influx-out flux personnel assignment patterns of today's units allow.

This Unit Manning and Rotation approach would directly reinforce the achievement of the Multi-Capable Soldier. Units organized in this fashion would more readily be able to sustain and broaden the multi-skilling achieved in IMT. Replacement Soldiers joining the unit over time may become more easily accepted and integrated if they can demonstrate proficiency in valued MSS skills sets beyond the confines of their primary MOS. Such units would also tend to retain the continuity of personnel to digest and advance the perspective for developing the Multi-Functional Soldier in a more deliberate and consistent manner. Lastly, past experiences with similar units in the 1980s indicated the possibility of achieving greater velocity in developing mature, senior leadership skills.[8] These are the very skills that form the foundation of the Multi-Dimensional Soldier.

A third potential enhancer is the notion of AOT. AOT is a program still under study for possible implementation; therefore, the specifics of how it may look remain sketchy. AOT is, in part, designed to complement the more generic IMT associated

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[8] Based on experience of the ST.

with MOS consolidation. According to this concept, AOT would occur during the final stages of IMT, by which time the Army would know a Soldier's follow-on assignment. AOT would consist of a short period of time during which equipment or highly focused individual training specifically focused on that unit of assignment would occur. For example, artillery Soldiers pending assignment to a unit equipped with the MLRS (Mobile-Launch Rocket System) might receive basic training on operating that system.

AOT enhances the Multi-Capable Soldier Framework by increasing the likelihood that Soldiers joining their new units will become more rapidly assimilated and accepted by those units. Soldiers joining operational units better prepared to perform their primary MOS duties should have increased opportunities for maintaining and broadening their MSS skill sets, both through unit individual training, installation-run courses, and Life-Long Learning Programs.

Focus of this Report

Having developed the Multi-Capable Soldier Framework to provide context, this report will now zero in on the MSS Concept, and particularly that aspect of MSS training with potential applicability for enlisted Soldiers in IET.[9] Figure 3 shows this focus conceptually. In the next section, the report will explore an MSS design scheme for IET. Following that, the report will explore the potential applicability of that scheme to the SBCT.

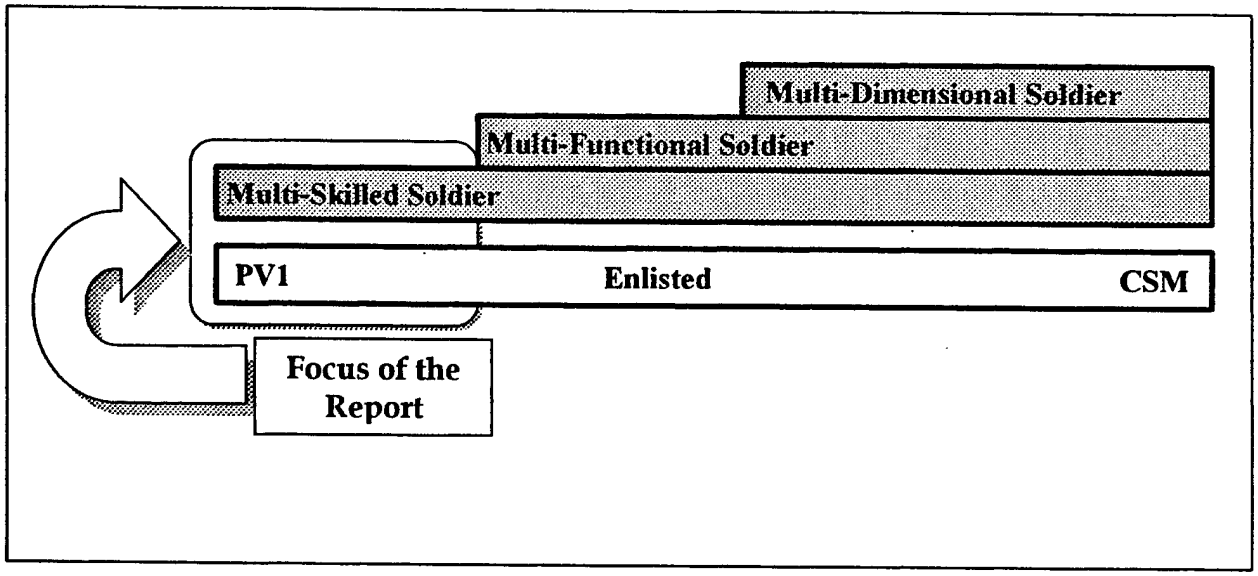

Figure 3. Portion of the framework that will be the focus of this report

[9] The report now shifts from the term Initial Military Training, which applied to all Soldiers of all ranks, to the term Initial Entry Training, which refers specifically to the initial training received by enlisted Soldiers at the beginning of their careers.

PRODUCING MULTI-SKILLED SOLDIERS IN INITIAL ENTRY TRAINING

Concept and Rationale

Since there is no authoritative or proposed Army definition of the MSS, the ST took its proposed MSS definition from the previous section and developed a corresponding MSS program for IET[10] that could be tested for SBCT applicability. In this section, the ST outlines its program and the supporting design features used in preparation for its presentation to the leaders of the 3rd Brigade, 2nd Infantry Division, the first SBCT activated.

Program Design Parameters

As mentioned in the previous section, the ST defined the Multi-Skilled Soldier as one who is trained, developed, and educated with skill sets beyond those common to his or her MOS that are needed to operate proficiently in increasingly complex environments. The proposed essential parameters for program design are outlined below:

- **Make operational requirements in the field the central and overriding factor in selecting MSS subject areas and in designing the specific skill sets to be trained.** Craft the training to provide needed skill set depth and redundancy in the Soldiers' post-IET units of assignment. For most Soldiers, this means operational units. This is the most compelling reason for establishing the program and for selecting the skill sets to be trained. The program's primary purpose should be to increase a unit's capability to perform its mission under demanding circumstances. Any other purpose pales by comparison. In addition, the subject areas chosen and the percentages of each IET class assigned against each area should reflect the input from operational units on their needs.

- **Aim for apprentice-level proficiency in MSS training.** The skill sets should be sized to ensure that the Soldiers can achieve a degree of proficiency and that it will "stick." Simply providing Soldiers an orientation on the tasks, the so-called "drive-by" training approach, must be strictly avoided.

- **Design MSS training to involve largely repetitive, hands-on, performance-oriented training.** Soldiers in IET are physically tired and, as a result, exhibit short attention spans when not engaged in activity. They learn best by doing. The intent

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[10] In the previous section, reference was made to Initial Military Training (IMT), which refers to the training for Soldiers of all ranks. This section now focuses specifically on Initial Entry Training (IET), which applies only to enlisted personnel.

of MSS training is to require Soldiers to perform continuously. Instruction through lectures should be kept to a minimum.

- **Conduct MSS training over a 2-2-½ week period during the concluding phase of IET.** It will take this long to achieve apprentice-level proficiency in the MSS subject areas. Any period of time less than this would result in superficial or highly perishable training. Figure 4 shows where the ST thinks that MSS training best fits into IMT.

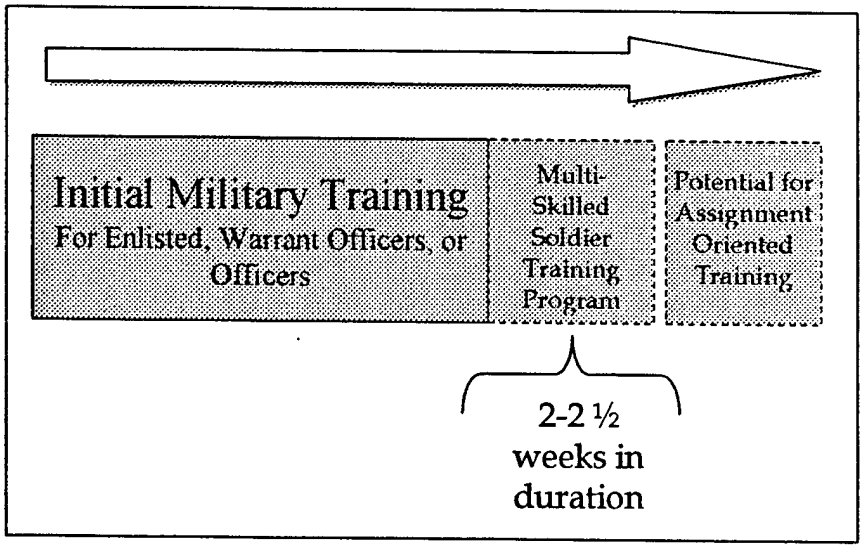

Figure 4. Conceptual picture of how MSS fits into the current training program

- **Divide each IET class into 3 to 5 subgroups for MSS training.** The larger IET classes should offer five MSS subject areas simultaneously. The smaller IET classes may have to settle for 3-4 subject areas as a practical matter. Figure 5 illustrates the breakdown of a notional IET class into five MSS training subject areas

- **Select Soldiers for specific MSS training based on performances in related training, previous life experiences, perceivable aptitudes, and personal interests.** A Soldier, for example, who excels in combat first aid training or who worked even distantly in the civilian health field would be an excellent candidate for MSS training as a Combat Lifesaver. Similarly, a Soldier who demonstrates special interest and aptitude for operating a radio might be a logical candidate for MSS training in Communications Skills. The cadre should also consider the Soldier's personal preference in making the final MSS subject area assignments. If the MSS training occurs at the end of IET, the cadre would have enough time to make well-informed Soldier assignment decisions for the MSS subject areas. The guiding principle is that

Soldiers who are assigned against subject areas for which they have a special interest or aptitude will perform at a higher level during MSS training.

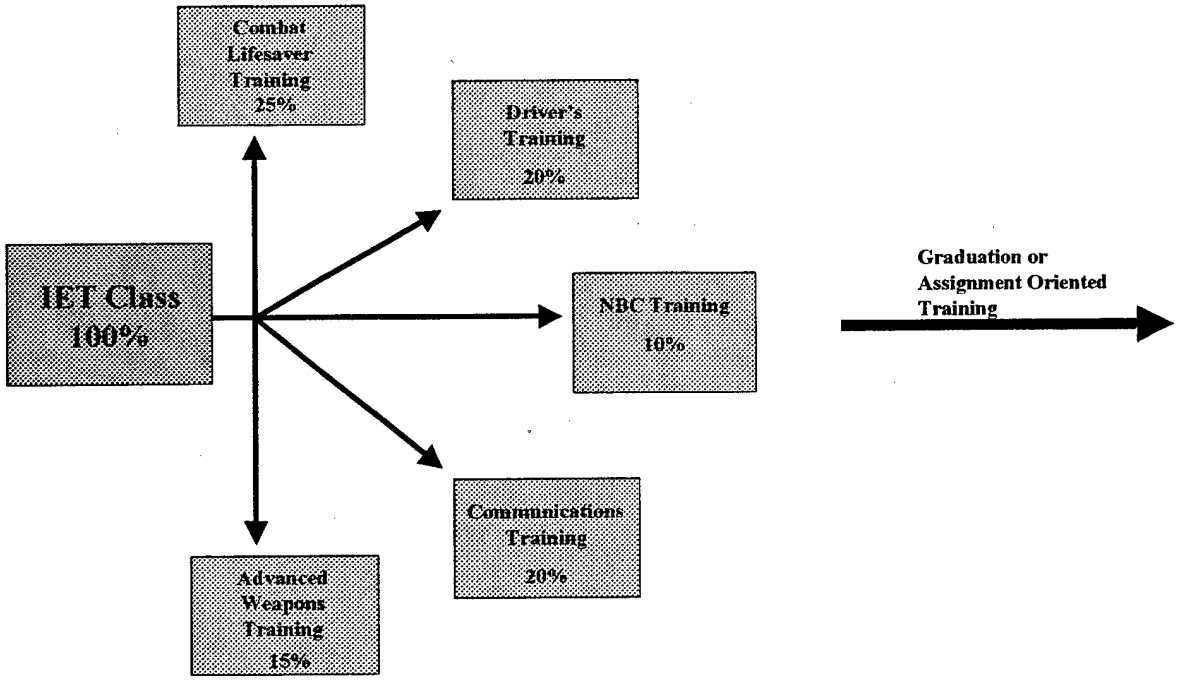

Figure 5. Notional example of MSS training for one IET class

- **Set and enforce reasonably challenging performance standards for successful completion of MSS training.** The MSS training program should not put pressure on the IET cadre or MSS instructors to ensure that virtually every Soldier "passes" his MSS training course. This approach would cause instructors to lean backwards to pass every Soldier, essentially "dumbing down" the quality of the training and the associated performance standards. Such an outcome would undermine the fundamental purpose of MSS training. Army leaders at all levels should be willing to accept up to a 10% failure rate to ensure that rigorous standards are enforced and that the training is sufficiently challenging. Soldiers who fail specific tasks should be re-tested, but those Soldiers who fail the entire course in spite of liberal re-testing and good-faith efforts at additional training should not be re-cycled. They simply should report to their next assignment without a validated MSS area.

- **Establish a skill set identifier to identify the MSS subject area that a Soldier has successfully completed in IET.** Gaining units have a need to know this information in making sub-unit and duty assignments.

- **Give Soldiers reference packages and show them how to maintain and broaden their proficiency in MSS subject areas by taking life-long learning courses specifically designed for that purpose.** Soldiers given such materials and shown a clear path to retain and advance their MSS skill sets on their own initiative are much more likely to do so during follow-on assignments.

- **Establish an aggressive evaluation program to gain timely feedback from operational units on the effectiveness and desired content of MSS training.** Make refinements and adjustments as the comments warrant. This may involve such actions as adding or deleting tasks to established MSS subject areas, adding or deleting MSS subject areas, or adjusting percentages of IET Soldiers attending each MSS subject area.

- **Design MSS training so that the skill sets chosen apply generically across the Army to as many elements of the Total Force as possible.** The Army has broad, common needs for certain kinds of MSS training. Proper selection of MSS subject areas and of associated skill sets ensures that the training will have the widest applicability across the Force, inclusive of the Reserve Components. This provides personnel managers with increased latitude in assigning Soldiers after IET, even diverting them en route from one unit to another based on the needs of the Army. A candidate MSS subject area that applies to only a select few kinds of units more properly falls under the purview of AOT. In fact, this is the design feature that clearly differentiates MSS training in IET from AOT.

Exploring the Program

Having designed a strawman MSS program for IET, the ST traveled to Ft. Lewis, Washington, during the period from 9 to 13 September 2002, to test it with key leaders from the first SBCT activated, the 3rd Brigade, 2nd Infantry Division. The next section details the results of that visit.

APPLICABILITY OF THE MULTI-SKILLED SOLDIER TO THE SBCT

To determine applicability of the MSS program, the ST presented the proposed MSS Program to senior leaders of an SBCT for consideration. Simultaneously the ST explored alternative approaches to multi-skilling. This section provides a summary of the responses. It also assesses the applicability of the MSS Concept for IET to the SBCT and constructs an applicable prototype. This section begins with a short overview of the visited SBCT and of the methodology employed to gather the needed data and perspectives. Next, the section captures interviewee comments regarding pertinent SBCT training challenges, alternative approaches to multi-skilling, and potential benefits of the proposed MSS Program. The remainder of the section addresses skill areas that SBCT leaders nominated for incorporation into the proposed MSS Program. The ST constructed the prototype by aggregating the top five nominated skill areas for each of the mainstream MOS in the brigade. In so doing, the ST concluded that the proposed MSS Concept is applicable to the SBCT and that it could be prototyped to significantly enhance the brigade's training readiness.

Overview of the SBCT

Many regard the SBCT as a forerunner of the Future Force. The SBCT's sine qua non is its enhanced deployability speed, as compared to that of other Current Force elements. The SBCT is a separate brigade of approximately 3600 Soldiers organized into eleven subordinate units:[11] a brigade headquarters and headquarters company, three identical infantry battalions, a cavalry [reconnaissance, surveillance, and target acquisition (RSTA)] squadron, an artillery battalion, a support battalion, a military intelligence company, an engineer company, a signal company, and an anti-tank company (Department of the Army [DA], 2003). According to the Objective Force Operational and Organization Plan for Maneuver Unit of Action, the SBCT is self-sustainable for 3-7 days after deployment with its organic CS and CSS units (DA, 2002). Thereafter, the SBCT's sustainment concept requires the augmentation by an external but associated CSS company of approximately 223 Soldiers, all of whom are immediately absorbed by the support battalion's headquarters and subordinate units upon arrival.[12] Since this study focused on the SBCT's skill set needs under deployed conditions, the ST treated the MOS in the CSS company as an integral part of the brigade's job structure.

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[11] Numbers reflect those at the time the study was conducted based on a DA published Stryker Unit Fact Sheet.

[12] The ST received a detailed briefing on the SBCT sustainment concept, including the organization and operations of the SBCT-associated CSS company, on August 28, 2002, from the staff of CASCOM at Ft. Lee, Virginia.

Methodology of SBCT Visit

The ST visited the 3d Brigade, 2nd Infantry Division (SBCT), at Ft. Lewis, Washington during September 2002. Forty months earlier, the brigade had assumed the role of the Army's first SBCT with the goal of achieving full operational capability by May 2003 and of meeting initial fielding requirements sometime during Fiscal Year (FY) 2008. During the summer of 2002, the brigade had fielded the Stryker vehicles for most of its combat units and had participated in the joint exercise Millennium Challenge 2002.

The ST interviewed senior NCOs and junior officers in representative units across the SBCT, unit-by-unit. Participants consisted mainly of the battalion Command Sergeants Major (CSM) and Sergeants Major (SGM), company/ battery/ troop First Sergeants (1SG), and Platoon Sergeants (PSG). The ST selected senior NCOs as the primary participants because they have the most appropriate experiences and insights relative to the training needs of Soldiers in the rank of Specialist and below--the Soldiers most involved with conducting individual training for Soldiers after IET. Many of these NCOs had recently served as Drill Instructors (DI) in IET, giving them with a well-rounded perspective of training both in the schoolhouse and in the field. The acting brigade CSM and the battalion CSMs handpicked the participants, based on leadership positions and overall SBCT experience. In the aggregate, the interviewees constituted a representative mix of CA, CS, and CSS leaders.

After orienting the most senior NCOs in the brigade, the ST conducted separate sessions for each of the following representative units, focusing on the mainstream enlisted MOS in each unit:[13]

- 1st Battalion, 23rd Infantry [Representative infantry battalion]
- 1st Battalion, 37th Field Artillery
- 1st Battalion, 14th Cavalry (RSTA)
- 296th Brigade Support Battalion (BSB)
- 18th Engineer Company
- C Company, 52nd Anti-Tank Battalion
- 334th Signal Company
- 209th Military Intelligence Company.

The ST gave an introductory briefing to all CSMs and separate company 1SGs in the brigade and then conducted unit sessions in a seminar, focus group format. Each session began with a background briefing and lasted about two hours. In the

[13] The term "mainstream MOS" is meant here to refer to those MOS with the higher densities in a unit. In most cases, they indicate the function of that unit. For example, the infantry MOS (11B) is a mainstream MOS in an infantry battalion while the cannon crewman (13B) is a mainstream MOS in an artillery battalion. Most units have more than one mainstream MOS. The support battalion has a large number of mainstream MOS.

background briefing, the ST presented the proposed MSS Program for IET, but opened the ensuing discussion to consider alternative multi-skilling approaches. The participating senior NCOs had in-depth knowledge and impressive insight into each MOS discussed. In almost every case, they had exercised considerable supervisory responsibility in the SBCT over individual training in the MOS under discussion. After discussing the benefits, challenges, and alternatives to the proposed MSS Program, the seminar sessions focused on identifying those additional skill sets for each mainstream MOS that would most enhance the unit's training and readiness posture. NCOs were asked to nominate and prioritize these MSS skill sets. The resulting top five additional skill sets for each mainstream MOS became the basis for the SBCT prototype.

Pertinent SBCT Training Challenges

In general, SBCT leaders strongly supported the proposed MSS Program for IET. They believed that such a program would provide needed additional skill depth and redundancy to the SBCT and lighten unit burden for conducting critical introductory training for additional skill sets outside the Soldiers' primary MOS.

In this regard, senior NCOs highlighted two salient training challenges that such an MSS Program would help alleviate. The first involved an intense competition for time to conduct quality collective training, and the second involved the difficulty of conducting "field craft-related" individual training especially for those in the CSS MOS.

The competition for quality collective training time comes from two sources: the demand to conduct required individual training that any contemporary unit must conduct and the demand to conduct individual and small-group training associated specifically with fielding new equipment. In the SBCT, these demands are particularly heavy. Required individual training that must be accomplished on a regular basis includes driver training, combat lifesaver training, individual weapons qualification and familiarization, gunnery, and Nuclear, Biological, Chemical (NBC) survival training. Some of this training requires installation-level schooling, the slots for which must be obtained well in advance for given dates. These slots are difficult to obtain, and installation commanders and their staffs emphasize full utilization. Units get into "trouble" even if a small number of their Soldiers regularly fail to show for such training. In addition, most units need this consolidated training to help them qualify enough Soldiers to meet training goals and operating needs. For example, without consolidated driver training and combat lifesaver training, many units would fail to have enough qualified Soldiers to perform those functions, directly diminishing its readiness posture. As a result, units consider it in their best interests to obtain and utilize all the consolidated training slots they can acquire. At Ft. Lewis (and by projection across the Army), this has led to excusing Soldiers scheduled for consolidated training in significant numbers from participating in collective training events, such as field exercises.

The interviewed leaders also cited SBCT-specific individual training as another major demand that made quality collective training time so difficult to conduct. At Ft. Lewis, this training involved skill sets associated with fielding the Stryker combat vehicle and with using the newly fielded Force XXI Battle Command Brigade and Below (FBCB2) tactical communications computer set. Soldiers required considerable time and practice to develop acceptable proficiency in its operation, especially for tactical situations. Lengthy FBCB2 schooling was consolidated at the installation level, with the same impact on collective training as other consolidated individual training, such as driver training, has traditionally had.

From the unit's perspective, however, the impacts are cumulative. Interviewed SBCT leaders in combat and combat support units indicated that their units frequently deployed to the field for collective training missing up to 30-40% of their assigned Soldiers left behind to attend post schools. This situation was aggravated by the high personnel turnover rate that the brigade was experiencing for the first time since being re-organized as an SBCT.

As new equipment fielding is expanded in the SBCT, the interviewed leaders predicted that the challenges to conducting collective training could grow substantially. In addition, many of the NCOs foresaw the same dynamics at work in Future Force units when they are fielded. With their plethora of anticipated new equipment and transformational employment concepts, Future Force units would likely face even more diverse and complex individual training challenges than those now faced by the SBCTs.

The second major category of SBCT training challenges involved the difficulty of conducting training in survival-related non-primary MOS field skill sets, especially for those in the CSS MOS. This requires a discussion of SBCT CSS doctrine and its training implications.

Doctrinally, the SBCT concept of service support requires the forward support battalion to deliver supplies on the battlefield directly to combat and combat support companies. This requirement means that small formations of CSS Soldiers must potentially operate in close proximity to enemy forces, both at the points of delivery and in transit. They must prepare to travel through unsecured areas on a non-linear battlefield, navigating precisely to find the supported units. Getting lost or disoriented could lead to disaster. They must steel themselves to deal effectively with hostile by-passed units, militia forces, armed civilians, or guerilla elements encountered anywhere and at anytime on the battlefield. This requires CSS Soldiers to develop proficiency in selected combat skill sets in addition to those associated with their primary CSS MOS. Desirably, such Soldiers would see themselves first as combat Soldiers and second as cooks, mechanics, medics, truck driver, fuel handlers, and the like. In short, they must be prepared to fight on a moment's notice in order to accomplish their CSS mission.

This CSS Concept, similar to the one under consideration for the Future Force, drives some significant training implications. The interviewed SBCT leaders emphasized the need for CSS Soldiers to achieve heightened levels of proficiency in such skill sets as combat lifesaving, crew-served weapons engagements, land navigation (day, night, and under all conditions), NBC group survival skills, and indirect fire call for fire procedures.

Most of the brigade's CSS Soldiers operate out of the support battalion, and therein lies the challenge. Whether in garrison or in the field, most support battalion Soldiers are fully engaged in their primary support duties, usually referred to by Soldiers as their "real-world mission." For example, cooks spend long hours preparing meals in dining facilities, and mechanics spend long days fixing or otherwise maintaining vehicles and equipment. What little time remains for individual training is normally devoted to improving proficiency in common and primary MOS tasks. CSS Soldiers do generally qualify annually with their assigned individual weapon (usually the M-16 rifle or the M-9 pistol), but usually without the benefit of proper preliminary marksmanship instruction (PMI). As a result, CSS Soldiers generally achieve only marginally acceptable standards. According to the interviewed NCOs, most CSS Soldiers end up still lacking real confidence in their marksmanship abilities. In addition, experienced Soldiers know that marksmanship skills are highly perishable, particularly if Soldiers have never attained a certain plateau of marksmanship proficiency and weapons familiarity. Most CSS Soldiers have never reached this plateau and do not have enough training time available in the support battalion to do so. Since the adequate performance of "real-world" duties impacts Soldiers and units across the entire brigade daily, leaders at all levels look upon the timely and quality execution of those duties as the support battalion's top priority. Unfortunately, there is little time remaining for non-primary MOS individual training.[14]

This situation is even worse for proficiency on crew-served weapons. Modified Tables of Organization and Equipment (MTOEs) authorize a large density of crew-served weapons throughout the support battalion, fully consistent with the kind of self-defense capabilities required in executing the SBCT CSS Concept on a non-linear battlefield. The M-2 .50 Caliber Machinegun (.50 cal), the Mark-19 (MK-19) Grenade Launcher, and the Squad Automatic Weapon (SAW) are particularly ubiquitous and important in this regard.

Most CSS Soldiers currently receive little or no training on these weapons in IET. Most Soldiers report after IET to their next assignments without ever having fired more

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[14] While many more senior leaders regard individual marksmanship proficiency as an inherent part of any primary MOS, the interviewed NCOs indicated that "the average CSS Soldier" at best considered annual marksmanship qualification as a "requirement" existing on the outermost periphery of primary MOS performance. The relatively little time devoted to PMI only reinforces this perspective.

than a few rounds for familiarization from these weapons, if that. Yet, the proficient operation of these critical weapons requires extensive initial gunnery training that must be reinforced by periodic refreshment training. Annual crew-served qualification is a must.

However, the support battalion has even greater difficulty in conducting crew-served weapon training than it does in conducting individual marksmanship training. In the intense competition for individual training time, getting Soldiers qualified on individual weapons in CSS units has generally ranked higher in priority than qualifying on assigned crew-served weapons. Understandably, the Army has traditionally regarded marksmanship proficiency as a prerequisite for the more complicated process of operating crew-served weapons. In addition, crew-served weapons qualification training requires considerably more time and resources than does PMI. Also, the support battalion generally has a dearth of NCOs who have ever achieved real proficiency with these crew-served weapons and who are capable of conducting the required training to the proper standards. As a result, most CSS Soldiers assigned to these crew-served weapons lack the necessary proficiency and confidence to operate them effectively under combat conditions.

Benefits of Multi-Skilling in IET

The interviewed SBCT leaders earnestly desired Soldiers coming out of IET to have proficiency in a larger number of individual tasks. The key question raised early in almost every interview was whether IET multi-skilling should be focused mainly on primary MOS tasks or on non-primary MOS tasks.

Clearly, the time available in IET is insufficient to train every Skill Level 1 primary MOS task. The master list of such primary MOS tasks has grown considerably in the past few years as a consequence of MOS consolidations. IET has traditionally only trained a percentage of those tasks with the rationale that the Soldier's next unit of assignment would train him or her on the remainder of those tasks, at least the more essential ones. This approach has increased the individual training burden on the Soldier's future unit leaders.

In virtually every interview session, the SBCT leaders debated vigorously how the Army should best exploit using additionally available IET training time. In each case, the vast majority concluded that training Soldiers in carefully selected non-primary MOS tasks would help their units more than using the time to thicken training in primary-MOS tasks.

Their rationale was straightforward and practical. The leaders reasoned that they were more capable than the schoolhouse in training Soldiers on primary MOS tasks. They were intimately familiar with those tasks and could readily relate them to

SBCT operations. In addition, they could conduct such training with minimal preparation, could integrate it easily into collective training on short notice or as opportunities developed, or could feature it weekly during Sergeant's Time.[15] In short, the interviewed NCOs did not see any profound difficulty in training their Soldiers on primary MOS tasks. They considered it their duty and responsibility to do so.

However, training their Soldiers on non-primary MOS tasks, or skill sets, was another matter. For the most part, teaching such tasks was extremely difficult. These tasks tended to constitute "low-density" skill sets within the unit. Since the NCOs were not real subject matter experts in those tasks, they had to "import" qualified instructors or send Soldiers to consolidated installation schooling. This was an administratively lengthy and painful process that consumed much leader time and degraded Soldier participation in co-scheduled collective training. But, since the unit needed greater depth and redundancy in these non-primary MOS skill sets to facilitate resiliency in mission accomplishment, it had to accept the cost.

The interviewed SBCT leaders believed that the proposed MSS Program for IET would help overcome some of the enormous difficulties in training key non-primary MOS tasks. First, a predictable percentage of incoming Soldiers would arrive with an apprentice level of knowledge in those tasks. Second, these Soldiers could serve effectively as peer coaches or instructors for fellow Soldiers who had not received such training. Interviewed NCOs acclaimed this "buddy training" as a particularly powerful tool for advancing unit readiness. Soldiers often desire to learn new skill sets because their buddies are relative "experts" who can tutor them. NCOs said that this type of training self-motivates Soldiers because it is a positive form of peer pressure. Other groups of NCOs said that having additional skill sets gave relatively junior Soldiers a sense of uniqueness and of "special" value from the moment they joined their new units. Third, arriving Soldiers would be required to spend far less time attending consolidated training at the expense of collective training to achieve local proficiency certification. The aggregate result would be a significantly increased unit readiness posture.

Leaders from the SBCT support battalion endorsed the proposed MSS Program enthusiastically as a means to help address the shortfalls in non-primary MOS survival skill sets among CSS Soldiers. By focusing on such skill set areas as advanced weapons (i.e., crew-served weapons), land navigation, NBC proficiency, communications, and call for fire procedures, the interviewed support battalion leaders believed that the MSS Program could make giant strides toward upgrading the survivability and overall

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[15] Sergeant's Time is typically one-half day of training per week planned and conducted in most Army organizations by the NCO chain of supervision. It can involve individual or collective training, but tends to focus mostly on individual task proficiency that will meaningfully improve a unit's readiness training posture. This time is sacred in most units, requiring suspension of most competing routine activities (e.g., maintenance, administrative, and recreational operations) during this period.

mission effectiveness of their CSS Soldiers moving about in small packages on an increasingly non-linear battlefield.

Conducting effective training for Soldiers, many of whom who have already achieved a level proficiency in the tasks at hand, is a remarkably simplified effort compared to training Soldiers on tasks for which most present have only superficial familiarity. The proposed MSS Program could ensure that enough CSS Soldiers emerge from IET with the requisite survival and fighting skill sets to serve as peer instructors and reservoirs of residual critical skill set expertise among the CSS Soldier population.

Lastly, the interviewed leaders from across the SBCT emphasized the need to couple any MSS Program in IET with an effective life-long program. Each MSS skill area, they insisted, should have an associated program of tailored courses and key references sequenced initially to sustain and then to broaden expertise. In addition, they recommended that each Soldier completing MSS training in IET receive a complete reference package of instructional and reference materials to take along to his or her next unit.

Nominated MSS Skill Areas

These unit interviews quickly convinced the ST that the proposed MSS Program for IET was clearly applicable to the SBCT. The implementation of such a program would have immediate and enduring salutary effects on the training readiness posture in every subordinate unit. The ST also concluded that the MSS skill sets had to be tailored for each MOS, based on unit operational needs.

With this in mind, the ST asked each seminar session of SBCT leaders to nominate and prioritize the MSS skill sets for each mainstream MOS in their units.[16] Seminar discussants in each session successfully reached a consensus on the top five skill areas for each of these mainstream MOS. Further differentiation and rank ordering among the top five choices was not credibly achievable. Table 2 shows the results for the "chosen" mainstream MOS in the infantry battalions, the engineer company, the field artillery battalion, and the signal company. Table 3 depicts the results for the support battalion, its associated CSS company, the military intelligence company, the cavalry squadron (RSTA), and the anti-tank company.[17]

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[16] The selection of the mainstream MOS for a unit was based on a subjective consideration of that MOS' impact on unit mission accomplishment in general and on the related density of Soldiers in that MOS at Skill Level 1.

[17] See Appendix B for the crosswalk from MOS numerical designations to MOS titles. Some of these MOS have been scheduled for restructuring since this analysis began. This restructuring does not make the MSS prototype obsolete for two reasons: First, restructuring does not occur immediately and second, because the restructuring does not completely phase out the skills of the MOS used in the prototype. Name and CMF changes are the extent of the restructuring.

Table 2
Nominated skill areas for the Infantry Bn., Engineer Co., Field Artillery Bn. and Signal Co.

	Infantry Battalion				Eng.	FA Battalion			Signal Co.		
Skill Nomination	**11B**	**11C**	**19K**	**91W**	**12B**	**13B**	**13D**	**13R**	**31C**	**31F**	**31U**
Combat Lifesaver	●	●	●		●	●	●	●	●	●	●
Driver Training	●	●	●	●	●	●	●	●	●	●	●
Communications Operator	●	●	●	●	●	●	●	●			
NBC Group Survival	●	●	●	●	●	●	●	●			
Advanced Weapons	○	○	○	●	●	●	●	●	●	●	●
Unit Armorer	●	●	●								
Land Navigation				●	○				●	●	●
Call for Fire Training									●	●	●
Unit Movement	○	○	○	○		○	○	○			
Generator Operator						○	○	○			
Adv Primary MOS	○	○	○	○	○	○	○	○			

Table 3
Nominated skill areas for the BSB, CSS, MI Co., Cavalry Squadron and AT Co.

	Brigade Support Battalion and Combat Service Support Co.						MI Co.	Cavalry Squadron		A/T Co.
Skill Nomination	**63B**	**77F**	**77W**	**88M**	**91W**	**92G**	**96B**	**19D**	**97B**	**11B**
Combat Lifesaver		●	●	●		●	●	●	●	●
Driver Training	●	●	●	●	●	●	●	●	●	●
Communications Operator	○	●	●	●	●	●	●	●	●	●
NBC Group Survival					●		●			●
Advanced Weapons	●	●	●	●	●	●	●	○	●	○
Unit Armorer	●						○	●		●
Land Navigation	●	●	●	●	●	●		●	●	
Call for Fire Training	●							○	○	
Unit Movement							○			○
Generator Operator							○			
Adv Primary MOS	○			○	○		○			○

● Top 5 ○ Mentioned, but not in Top 5

The following principal MSS skill set categories were nominated: Combat Lifesaver (CLS) Training, Driver Training, Communications Operator Training, NBC Group Survival Training, Advanced Weapons Training, Unit Armorer Training, Land Navigation Training, Call for Fire Training, Unit Movement Training, Generator Operator Training, and Advanced Primary MOS skills. Salient comments and considerations from the unit interviews are summarized below for each category.[18]

In general, the ST found that CA units favored multi-skilling mostly in low-density skills, that is, drawn largely from non-combat arms MOS. CS and CSS units, on the other hand, favored survival, movement, and fighting skill subsets that are in abundance within CA units. As a rule, most leaders wanted to focus on critical mission-centric MSS skill sets in which they judged their units to have insufficient depth and redundancy for extended or high-intensity operations.

Combat Lifesaver Training

The CLS program imposes a heavy training burden across the SBCT. In most units, approximately 20-25% of all Soldiers are required to be CLS qualified. CLS, which essentially amounts to advanced combat first aid, has become as an important readiness training issue. The CLS tasks are a subset of the Health Support Specialist MOS (U.S. Army Intelligence Center & Ft. Huachuca, 2001).

The requirement for so many CLS-trained Soldiers stems from the recognition that the Army cannot practically have the density of medics (91W) it needs to treat casualties everywhere on the battlefield. A successful CLS program ensures that buddy aid, at a minimum, will be ubiquitous enough to ensure prompt, life-saving first aid to injured or wounded Soldiers. Thus, depth and redundancy in CLS skill sets translates directly into saving lives of wounded or injured Soldiers during operations. For that reason, commanders routinely scrutinize CLS certification statistics as intensively as they scrutinize weapons qualification numbers, especially in connection with monthly readiness review sessions and quarterly training briefs.

The standard Army CLS course involves forty hours of intense instruction. To pass, Soldiers must demonstrate hands-on proficiency to a high standard. However, most of the interviewed NCOs admitted that they had to "prepare" their Soldiers to attend the CLS course through consolidated training at the battalion level, often involving an additional 20-30 hours of training. Without such preparatory training, Soldiers generally had difficulty completing the demanding and fast-paced CLS course on the first try, an embarrassment for their units.

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[18] See Appendix C for the desired Soldier performance capabilities associated with each of the nominated MSS skill sets.

SBCT leaders nominated CLS as one of the top two preferred additional skill sets for the MSS Program. Having a significant percentage of new Soldiers coming from IET with apprentice level CLS proficiency, they insisted, would help immeasurably to simplify their units' individual training burden. These leaders would still want to "certify" incoming Soldiers in CLS proficiency with a performance test. This could be done swiftly and conveniently at the unit level, avoiding all the deleterious effects on collective training of programming Soldiers in significant numbers to attend relatively inflexible installation training courses.

Driver Training

SCBT leaders also nominated Driver Training as one of their top two preferred additional skill sets. As a motorized unit, the SBCT has a virtually insatiable appetite for qualified drivers. With over 800 vehicles of all kinds, the brigade must produce new drivers at a steady rate. For the most part, new drivers are in the rank of Private First Class (E-3) and below. At any time, the SBCT has hundreds of Soldiers undergoing, or waiting to undergo, Driver Training.

Training new drivers is complicated and time consuming. First, the SBCT Soldier must attend a consolidated, forty-hour installation course on driver safety before he or she can get behind the wheel of a military vehicle. Then, the Soldier undergoes several weeks of classroom and hands-on driver training conducted by the parent battalion unit. If all goes well, the Soldier then earns a license to drive one of the simpler vehicles, usually the High Mobility Multi-Purpose Wheeled Vehicle (HMMWV). Following that, Soldiers can train to drive more complex vehicles, based on unit needs, such as the Stryker Combat Vehicle, a 5-ton truck, or a Heavy Expanded Mobility Tactical Truck (HEMTT).

SBCT leaders enthusiastically embraced the initiative to achieve apprentice-level proficiency in Driver Training for a significant percentage of IET Soldiers. These leaders especially stressed the importance of completing the required forty-hour safety class and of earning a HMMWV license.[19] This approach would save unit leaders the bureaucratic hassle of working so many of their Soldiers through installation-level, consolidated courses. After passing a unit certification test, these Soldiers could start

[19] A related problem involves gaining local installation acceptance for the forty-hour drivers safety class to be taught in IET. Currently, many Army posts, including Ft. Lewis, only recognize the drivers safety class that they teach as meeting the prerequisite for military equipment licensing. The safety course taught as part of MSS Drivers Training must conform to the Army standard and be fully accredited by all installations.

serving immediately as HMMWV drivers or proceed directly to training on the more complex vehicles in the unit.[20]

Those interviewed emphasized that they did not expect MSS Driver Training to produce highly proficient military drivers from new recruits. However, receiving a significant percentage of IET graduates with the most fundamental aspects of Driver Training completed was regarded as a giant step forward. The lengthy process of getting Soldiers through the post-level drivers safety course and then training them from scratch on the vehicles could be avoided. New Soldiers would arrive with an enormous head start becoming accomplished drivers. This approach translates into increased Soldier availability for collective training, more flexibility for the units in conducting follow-on driver training, more peer driver expertise among junior Soldiers, a broader pool of Soldiers from which a unit could select driver replacements, and greater depth and redundancy in driver skill sets generally in the command. It also translates into far less unit time consumed in producing needed drivers under all situations. This would be especially true if IET graduates joined a deployed unit serving in an austere area where the function of post schools is incredibly more difficult to replicate.

Some of the interviewed SBCT leaders, particularly in the support battalion, wanted MSS Driver Training additionally to include training on 5-ton trucks, or trucks in the inventory of approximately that size. However, after much discussion, most concluded that it was unrealistic to expect most Soldiers to earn both a HMMWV and 5-ton truck license within two weeks. Still, many felt that at least a brief orientation to the 5-ton trucks should be attempted in the closing stages of MSS Driver Training, to include some behind-the-wheel experience for the more advanced and experienced students.

In any event, the SBCT leaders unanimously agreed that MSS Driver Training should, at a minimum, encompass the following skill sets for the HMMWV: Performing preventative maintenance checks on the vehicle and all its sub-systems, including the radio; conducting basic operator maintenance; demonstrating understanding of the safety considerations in operating the vehicle; employing the vehicle with a trailer; driving in both two-wheel and four-wheel drive in different kinds of terrain, both under day and night conditions; troubleshooting common mechanical problems; using the operator's manual and maintaining the logbook; basic convoy procedures; self-recovery techniques, and driving while using night vision devices. Additionally, most felt that Driver Training for MOS 91W (Health Support Specialist)

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[20] Interviewed SBCT leaders insisted that gaining units should re-license incoming Soldiers who had successfully completed MSS Drivers Training in IET, but only after verifying through brief, confirmatory tests (both practical and written) that those Soldiers were qualified to operate a HMMWV competently. Unit leaders want to conduct their own assessment of driver candidates, and have the "final say" in authorizing their Soldiers to operate military vehicles.

should use the ambulance model of the HMMWV, the so-called Front Line Ambulance (FLA).

Communications Operator Training

SBCT leaders also nominated a basic communications skill set for inclusion in the MSS Program for IET. They observed that, aside from Signal Corps Soldiers, IET graduates received only superficial training in the operation of basic signal equipment using doctrinal communications procedures and techniques. Many Soldiers claimed to have received only about two hours of formal instruction with little follow-on practical work to promote retention. Clearly, most graduates were insufficiently prepared to perform even the simplest communications tasks. For the most part, junior Soldiers were "afraid" of communications gear and shied away from doing anything with it. They tended to view such gear as exotic, and its operation as artfully mysterious. The interviewed SBCT leaders said that they had had to teach most new Soldiers from scratch how to use communications equipment properly. As a result, Soldiers regarded proficiency in communications tasks as something that more seasoned junior Soldiers eventually acquire, if at all, generally by watching their officers and NCOs use the equipment.

These leaders suggested that MSS Communications Operator training include at least the following skill sets: understanding the propagation characteristics of communications signals; pursuing best practices for using signal equipment; sending and receiving messages and reports of all kinds; using proper radio-telephone operator (RTO) procedures; mounting and using a radio in a HMMWV; employing the FBCB2 communications vehicular system;[21] operating the Single Channel Ground and Airborne Radio System/Advanced System Improvement Program (SINCGARS/ASIP) radio; using the Precision Lightweight GPS [Global Positioning System] Receiver (PLGR)[22] to find locations and to navigate; employing the Automated Network Control Device (ANCD) to load encryption variables into signal equipment; performing preventative maintenance on signal equipment and troubleshooting malfunctions; understanding Local Area Network (LAN) operating principles; erecting field expedient antennas; and following security procedures in employing signal equipment.

The intent of MSS Communications Operator training is to de-mystify signal communications for participating IET Soldiers. This approach seeks to cross a psychological barrier that seems to have been in place in the Army since the field radio first entered into use. These Soldiers can become valued operators and peer instructors,

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[21] FBCB2 is currently SBCT-specific but is tentatively planned for Army-wide application in the years ahead, resource permitting, according to the Office of Training System Management, Ft. Knox, KY.

[22] The PLGR is a hand-held, durable, real-time GPS used Army-wide in missions spanning the entire range of military operations.

thereby significantly enhancing the depth and redundancy of these critical skill sets in their next assigned units.

Nuclear, Biological, and Chemical (NBC) Group Survival Training

IET spends considerable time and energy training NBC individual survival tasks. Soldiers reporting to their next assignments seem well grounded in those tasks. However, SBCT leaders reported that their units lack sufficient depth and redundancy in highly perishable NBC group survival skill sets. Current assessments predict even more pervasive NBC threats on the future battlefield.

Group survival skills involve the employment of ad hoc functional NBC teams to perform such complex tasks as conducting chemical monitoring and surveying; performing radiological monitoring and surveying; and decontaminating Soldiers, facilities, and equipment. These teams could be activated at any time to perform their functions. Depending on the nature of the threat, two or more teams could operate simultaneously, and more than two teams of the same kind may be required at the same time. Team performance usually requires proficiency in operating an array of complex detection and decontamination equipment.

Most battalions have but a single chemical officer and NCO in their headquarters, while most companies are fortunate to have a school-trained staff NCO to help organize, train, and assess individual and collective NBC training and to oversee (and often perform) the maintenance of an extensive quantity and wide variety of NBC equipment. SBCT leaders considered these low-density NBC job skills to be mission critical.[23]

Successful NBC operations are therefore predicated on having a deep bench in the command of Soldiers who can step forward in a pinch and perform proficiently as NBC team members. The intent of MSS NBC Group Survival training is to provide additional breadth and depth to that bench. The focus of this training would be on NBC team skills. Soldiers would train to serve effectively in any position on all the possible teams. To do so, Soldiers would have to learn how to operate and maintain all the NBC equipment in a typical company-size unit.

The desired outcome of this MSS training is not to produce more company NBC NCOs or to provide for additional full-time assistant NBC NCOs. Although a commander always has the prerogative of putting some of these Soldiers into authorized NBC NCO slots, if required, the envisioned outcome was to have NBC expertise imbedded throughout the unit's subordinate elements. These Soldiers could

[23]MOS 54B (Chemical Operations Specialist), which will be designated as 74D (Chemical Operations Specialist) by 2009, accounts for less than 2% of SBCT's total authorized strength. Soldiers in the rank of Specialist and below constitute less than 1% of authorized strength.

assist informally as buddy trainers or formally as assistant instructors with the conduct of individual or collective NBC training, help with maintaining NBC equipment, or assume duties as members of activated, ad hoc NBC functional teams. In this manner, these Soldiers would contribute significantly in raising and sustaining the unit's baseline NBC expertise and its resultant readiness training posture.

Finally, SBCT NCOs felt that the percentage of IET Soldiers receiving NBC Group Survival training did not need to be particularly large. The recommended figure at most seminar sessions was 10-15%. This figure was significantly less than the ones recommended for Combat Lifesaving and Driver Training, approximately 20-25% each.

Advanced Weapons Training

SBCT leaders in every seminar session nominated Advanced Weapons Training for inclusion in the MSS Program. Even for combat MOS Soldiers, leaders wanted more direct fire weapons training in IET. However, the primary thrust of Advanced Weapons Training was focused on the CS and CSS MOS. These leaders suggested a number of weapons—the M-2 .50 caliber Machinegun, the Mark 19 Grenade Launcher, the M-240 Machinegun, the M-249 Squad Automatic Weapon, the AT-4 Anti-Tank System, the M-9 9mm Pistol, the Javelin Anti-Tank System, and the Stinger Missile. Some suggested advanced rifle marksmanship using the M-16 Rifle or M-4 Carbine as an alternative.

However, after considerable discussion, three weapons systems emerged for priority consideration: the M-2 .50 Caliber Machinegun, the MK 19 Grenade Launcher, and the M-249 SAW. In CS and CSS units, these weapons appear ubiquitous, but only a few Soldiers know how to employ them effectively. Unfortunately, those units do not appear to have the extensive time required to raise proficiency over time, given their demanding daily support regimens, as well as the competing and compelling demands for individual and collective primary MOS training. Leaders from CS and CSS units said they really needed help to improve the situation. They saw MSS Advanced Weapons Training potentially as a major assist in thickening the unit's overall expertise in employing these three key weapons systems. For this reason, they recommended that approximately 20-25% of IET classes for CS and CSS MOS undergo MSS Advanced Weapons Training.

Leaders from most combat units quickly concluded that Advanced Weapons Training ranked below other proposed MSS skill sets in priority. It did not make it into the top five for the infantry and armor MOS. It did, however, make the top five for the three artillery MOS considered.

Unit Armorer Training

Each company-size unit generally has an armorer (usually a junior NCO) and an assistant armorer. Among other duties, these Soldiers run the arms room; issue and collect weapons; help maintain weapons accountability in garrison; oversee operator weapons maintenance; conduct technical weapons inspections to detect faults; perform some organizational maintenance and repair tasks; assist with technical weapons instruction; and send weapons to appropriate repair shops for higher-level maintenance.

This low-density expertise is of critical importance. SBCT leaders believed that subordinate units (typically platoons, sections, or detachments) also needed to have some depth and redundancy in armorer skills to assist with the proper maintenance and operation of their weapons. Company armorers cannot be everywhere where they are needed, and they are often overcome with large workloads. Adding Unit Armorer Training to the MSS Program would create a pool of expertise throughout the unit to help armorers in surge situations, conduct buddy training for fellow Soldiers, assist with the proper maintenance of unassigned weapons, and to raise the general level of knowledge about the care and operation of unit weapons. In addition, if the regularly assigned armorers became unable to perform their duties, proficient replacements would be immediately available to fill in, at least temporarily.

For this reason, the interviewees nominated Unit Armorer Training for inclusion in the MSS Program. They identified the following weapons as the focus for the training: the M-2 .50 Caliber machinegun; the MK-19 Grenade Launcher, the M-16 Rifle, the M-4 Carbine, the M240 Machinegun, the M-203 Grenade Launcher, the SAW, and the M-9 Pistol. In two weeks of MSS training, they felt that Soldiers could achieve apprentice-level expertise relative to these weapons in conducting technical inspections, performing proper operator and organizational maintenance, troubleshooting malfunctions, and learning assembling and disassembling procedures.

Further, they said that the percentage of IET Soldiers programmed for MSS Unit Armorer Training should be considerably less than that for CLS or Driver Training. They recommended 10-15%.

Land Navigation Training

The SBCT leaders identified Land Navigation as a strong candidate for MSS Training, particularly for Soldiers in the CS and CSS MOS. Soldiers in combat MOS spend a great deal of time practicing land navigation as an integral part of their individual and collective training. CS and CSS Soldiers do not. And yet, CS and CSS Soldiers are supposed to move about the battlefield in small functional or tailored packages, vulnerable to engagements by enemy forces.

Land navigation proficiency becomes key to mission accomplishment and force protection under such circumstances. CS and CSS Soldiers disoriented on the battlefield would be unable to find planned locations to carry out essential activities (e.g., delivering supplies, evacuating casualties, performing maintenance, setting up signal nodes, establishing re-fuel points, retrograding inoperable equipment). Furthermore, disoriented CS and CSS Soldiers could inadvertently wander into otherwise avoidable enemy forces in known or suspected locations. The SBCT's CSS doctrine of pushing services and supplies forward to maneuver companies makes effective navigation both essential and challenging. The practice of doing so in small groups largely under the cover of darkness makes it even more challenging.

This Land Navigation training would consist of repetitive practice in such tasks as reading and orienting a map, planning the navigation aspects of a movement, navigating by compass and map, determining one's position on a map, estimating distances in all kinds of terrain, performing terrain association, and navigating with a PLGR. Most of the training would take place in the field and would stress practical applications.

The interviewees recommended that 20-25% of CS and CSS Soldiers receive MSS Land Navigation Training. In their view, this would provide enhanced land navigation skills in sufficient density within CS and CSS units to support the SBCT's CSS doctrine.

Call for Fire Training

A number of SBCT leaders, particularly from the signal company and the support battalion, nominated Call for Fire as an MSS skill area for CS and CSS Soldiers. The rationale was similar to that for Land Navigation. Small clusters of CS and CSS Soldiers moving about the battlefield could occasionally expect to encounter enemy forces in superior numbers. Should not they be able to call for and adjust artillery fire on such forces? Would not such fires allow them to destroy the enemy, or at least facilitate disengagement?

NCOs explained that teaching Soldiers in how to call for and adjust artillery fire on targets of opportunity would enormously enhance force protection and make CS and CSS Soldiers much more confident on the battlefield. They emphasized that simply knowing one or two voice call for fire procedures, coupled with proper adjustment techniques, would be sufficient.

In the end, most interviewees decided that other proposed skill sets trumped Call for Fire Training. The leaders supported including Call for Fire Training among the top five MSS skill area choices for only the three main signal MOS and a maintenance MOS (63B).

Unit Movement Training

Since the end of the Cold War, the ability to deploy rapidly by land, sea, and air has become an increasingly stressed readiness requirement. Operational units must be able to deploy on short notice to any point on the globe. To achieve this capability, units must possess expertise on how to prepare their equipment properly for loading on rail cars, different types of sealift ships, and different models of transport aircraft. They must also develop proficiency in executing a large load out quickly and efficiently.

Interviewed SBCT leaders indicated that they needed more Soldiers who knew how to prepare for, and conduct, full-scale load outs for land, sea, or air deployments. Currently, most company-size units have one or two junior officers or NCOs who have attended a local Unit Movement Course. These courses focus mostly on the planning and preparation for unit deployments. To provide for greater depth and redundancy in this critical task, some leaders nominated Unit Movement Training as a candidate MSS skill set for IET. They desired this hands-on training to focus primarily on techniques and procedures to prepare and load vehicles and other equipment for distant transport.

After some discussion, most seminar sessions concluded that MSS Unit Movement Training, while important, did not rank high enough relative to the other nominated MSS skill sets to make the recommended top five for any MOS. A major consideration was the number of Soldiers who needed to have this expertise. Most leaders felt that having just two or three per platoon would suffice. To meet this requirement, only a very small percentage of IET Soldiers would have to take this MSS training, perhaps only 5% of each class. This low percentage made it impractical to include Unit Movement Training in the MSS Program. Nonetheless, SBCT leaders lamented at length their shortage of imbedded unit movement expertise to support major deployments.

Generator Operator Training

The SBCT has a large number of generators, particularly in the artillery battalion, the signal company, the military intelligence company, and the support battalion. The power they supply is critical for sustained operations.

Leaders from these units nominated Generator Operator Training as a candidate MSS skill area. Most Soldiers in these units have had no prior experience with operating generators. Yet, Soldiers of various MOS must operate most generators as an additional duty. The frequent result is that a generator overheats and becomes inoperative, often permanently, because the assigned Soldier was insufficiently familiar with the peculiarities of this equipment. Soldiers who operate generators must

understand the basics of its installation, transport, maintenance, operation, and grounding.

After some discussion, SBCT leaders agreed that Generator Operation Training was not a fitting candidate for the MSS Program. First, too few Soldiers for any single MOS are involved. Second, there are more pressing MSS candidates. And third, units could best fix this situation by conducting short generator operation courses for the relatively few Soldiers involved.

Advanced Primary MOS Skill Set Training

Some SBCT NCOs opined that at least some of the MSS skill areas should focus on developing advanced primary MOS skills. For example, the NCOs associated with MOS 91W (Health Support Specialist) in the support battalion stated that these Soldiers should train on certain advanced medical skills not now covered in IET for lack of time. They nominated field sanitation and records management for consideration. Another example pertained to MOS 11C (Indirect Fire Infantryman). NCOs assigned to one of the SBCT's infantry battalions nominated Fire Direction Operations as a candidate MSS skill area. Similar nominations occurred initially in almost every seminar interview session.

For the most part, however, subsequent discussion led most to agree that MSS skill areas should focus on non-primary MOS skill sets. Most units had senior NCOs and officers with the requisite knowledge and experience to train the advanced primary MOS skills. In fact, such training was routinely done to a high standard. While it would be "nice" if at least some IET graduates acquired these advanced skill sets, most seminar participants concluded that it was "essential" for them to train on specific enabling non-primary MOS skill sets. Units had much more difficulty teaching those subjects efficiently.

MSS Prototype for the SBCT

The MSS Prototype results directly from the discussions about the skill sets nominated by interviewed SBCT leaders. These leaders identified skill sets consistent with the proposed MSS Program for IET that would most contribute to enhanced unit readiness. They agreed fully that operational needs of units in the field should principally drive the selection of MSS skill sets. They also affirmed that frequent, quality feedback from the field should drive a periodic modification of selected skill sets.

The proposed prototype is shown in Table 4. It consists of five skill sets for each selected mainstream MOS in the SBCT. The prototype was formed from the top five nominations made for each MOS shown, as proposed and ranked by SBCT senior NCOs and junior officers. The prototype identifies a total of eight MSS skill areas to be applied in IET across the identified MOS, five per MOS.

Table 4
Prototype by MOS

Skill Nomination	11B	11C	12B	13B	13D	13R	19K	31C	31F	31U
Combat Lifesaver	●	●	●	●	●	●	●	●	●	●
Driver Training	●	●	●	●	●	●	●	●	●	●
Communications Operator	●	●	●	●	●	●	●			
NBC Group Survival	●	●	●	●	●	●	●			
Advanced Weapons			●	●	●	●		●	●	●
Unit Armorer	●	●					●			
Land Navigation								●	●	●
Call for Fire Training								●	●	●

Skill Nomination	63B	77F	77W	88M	91W	92G	96B	19D	97B
Combat Lifesaver		●	●	●		●	●	●	●
Driver Training	●	●	●	●	●	●	●	●	●
Communications Operator		●	●	●	●		●	●	●
NBC Group Survival					●	●	●		
Advanced Weapons	●	●	●	●	●	●	●		●
Unit Armorer	●							●	
Land Navigation	●	●	●	●	●	●		●	●
Call for Fire Training	●								

● Top 5

CHALLENGES AND POTENTIAL WORK-AROUNDS

The previous section established that the MSS program for IET is applicable and supportive of enhancing the SBCT's mission readiness. It also suggested a prototype for the SBCT and outlined next steps to test and refine possible implementation approaches. It is now time to consider some of the more significant challenges to establishing these programs, as well as to explore some measures that could be employed to mitigate those challenges.

The principal challenges to establishing a viable MSS training program for IET fall into two categories: time and resources.

Time

A viable MSS program for IET portends a lengthening of today's IET by approximately 2 to 2 ½ weeks. This means that the Army's TTHS (Trainees, Transients, Holdees, and Students) Account would increase somewhat. However, this outcome would fly in the face of current Army policy to reduce the TTHS account significantly and to man operational units at full strength wherever possible.

A possible solution involves a re-design of IET to factor out some of the collective training and even some of the primary MOS individual training. Interviewed NCOs in the SBCT, many of whom had recently served as DIs in IET, consistently reported that there had been substantial increase in collective training, including an expanded program of field exercises, in IET during the past few years. Most believed that such collective training added little value for the follow-on units. In many cases, these NCOs opined, the Soldiers learned bad habits from collective training in IET that had to be "un-learned" later. These NCOs believed that 1 to 1-1/2 weeks could be gained for MSS training by pruning down IET collective training to a bare minimum.

During the SBCT interviews, the senior NCOs repeatedly lamented the trend in IET over the past few years for the branches to teach a smaller and smaller percent of the basic MOS tasks. This trend has been aggravated by MOS consolidations, which have caused the comprehensive task lists for most consolidated MOS to grow substantially. Most branches have adopted the approach that operational units should assume the responsibility for training Soldiers on the base tasks that cannot be taught in IET. This approach has, in effect, further increased the burden on units in the field for conducting individual training.

Despite these laments, however, the NCOs interviewed at Ft. Lewis spoke with near unanimity in recommending the implementation of the MSS program in IET, even if a time trade-off had to be made with primary MOS tasks that would otherwise be

taught in IET. They stated that they were capable of training their Soldiers in primary MOS tasks and that they could pick up the burden for such training because they were the subject matter experts (SME) on such tasks. Where they really needed help was in ensuring that their Soldiers received the cross-MOS training in skill sets for which they could not serve generally as SMEs, such as CLS or driver training. Such training usually involves sending Soldiers to consolidated classes run by their installations at inflexibly inconvenient times, often causing the attendees to miss mission-essential collective training. In fact, the NCOs complained that as many as 30-40% of their Soldiers missed field training because they had to attend such centralized training. Slots for this training were so difficult to obtain and the unit need was so great that this individual training usually took priority over participation in collective training. Having a sufficient percentage of IET graduates report to their units proficient in MSS skill sets would help enormously to simplify their units' training challenges and thereby promote a better training readiness posture for their units.

Resources

Establishing an MSS training program for IET will require resources: people, funding, and materiel. However, the major cost involves people. The ST and the NCOs interviewed at Ft. Lewis both recommend using contractors to conduct most of the MSS instruction while IET cadre provide chain-of-command oversight. Not only is this use of contractors a cost effective approach, but it also provides great flexibility to add, delete, and adjust MSS subject areas over time. This approach also avoids using military personnel to conduct training that contractors (probably inclusive of recent retirees) are fully capable of executing to standard. For many MSS subjects, contract labor is also a cost effective way to provide required maintenance support (e.g., armorer support for advanced weapons training, vehicle maintenance support for driver training, or equipment maintenance support for NBC training).

Aside from labor costs, the major funding costs are for start-up. However, these costs do not appear to be prohibitively high. Once the MSS training commences, the operating costs are well within reason and include such items as expendable supplies, training aids, ammunition, fuel, and repair parts.

Materiel requirements relate to needed training equipment – such as HMMWVs for driver training; weapons for armorer and advanced gunnery training; radiac meters and decontamination apparatuses for NBC training; medical dummies for CLS training; and radios and PLGRs for communications training. Much of this equipment exists in quantity throughout the force and could be obtained through directed lateral transfers. In the interim, much of this equipment could be borrowed from near-by units or depots to support pilot programs, as well as the early stages of a more expanded program of MSS training.

LOOKING BEYOND THE SBCTs TO THE FUTURE FORCE

Clearly, the job structure of today's SBCT reflects that of the remaining Current Force more than it anticipates that of the Future Force. For this reason, the recommended prototyping of the SBCT in this report strongly reflects today's perspective of general MOS structures and related skill set components.

However, in the experiences of the first activated SBCT over the past two years, one can see some of the MSS-related issues emerging. One of the arguably more significant issues pertains to a growing burden for conducting individual training that operational units are experiencing. As MOS have been consolidated, the master task lists for those MOS have greatly expanded. At the same time, the time allotted in IMT to train basic tasks, even initially, has remained about the same and, in some instances, has been reduced. The Army has adopted a conscious approach to shift responsibility for training the MOS tasks that cannot be trained in IMT to operational units.

For most operational units, there is a dynamic tension between the time available for individual training and the time available for collective training. Of course, many individual primary MOS tasks can and should be trained during collective training. However, not all individual tasks lend themselves easily to such integration. In addition, as previously discussed, many individual tasks that reside outside the primary MOS must also be trained, such as those associated with the CLS and the Driver Training Programs; much of this training burden could be mitigated by an effective MSS program in IET. With the increased frequency of unit deployments and associated increase in personnel tempo (PERSTEMPO) across the Army in recent years, a trend predicted to continue for the foreseeable future, this tension to find adequate time within operational units to address both individual and collective training requirements has significantly spiked upward. So far, these challenges apply to other Current Force units as much as they do to SBCTs.

However, in the case of the visited SBCT, the ST observed yet another phenomenon at work to aggravate this tension - one more characteristic of units fielding new equipment, experimenting with new employment approaches, and exploring new personnel and training initiatives. In this case, the SBCT adumbrates what may well be increasingly encountered as additional SBCTs are fielded and as Future Force units of action (UA) are formed. This tension involves the rather extensive requirements of new equipment and related operator training, much of which must be taught in a centralized fashion at the installation level. This additional layer of individual training requirements has become particularly troublesome for the visited SBCT at Ft. Lewis. Together with the other competitors for individual training time, the requirements for individual training of all kinds seem to conspire against the conduct of meaningful collective training. Even where collective training is scheduled, so many Soldiers are

absent attending installation-run individual training that the unit readiness benefits of the collective training are degraded in a major way.

The NCOs from the visited SBCT exhibited a heightened level of concern and frustration. The near-unanimous view was that this situation presented the greatest challenge they had ever experienced in trying to balance individual and collective training. Equally significant, many said that they could envision Future Force units undergoing the same challenge, at an even higher level of intensity, when they stand up. The common view was that operational units needed some relief from the growing individual training burden and that the conduct of MSS training in IET would contribute in a major way to improving this situation. In their view, this development was fast becoming a significant readiness issue and had the potential to get much worse.

While intense efforts are underway to design the organizational structure of the Future Force and to think about related MOS structures, the actual process of implementing a future job structure will be evolutionary in nature. If history is a guide, one can predict that there will be strong continuities with, as well as dramatic departures from, today's MOS structure. However, there is no clear picture of how this process might unfold in the years ahead. Again, if history is a guide, Soldiers ten years from now might well say that today's Army had but a fuzzy and distorted vision of the path ahead and of how formative complex issues might play out in the personnel arena. And that is almost always the case for complex institutions like the Army.

Some on the ST, for example, remember the days of the late 1960s and early 1970s, when many in the Army personnel community were anticipating the widespread introduction of desktop computers into the force. At that time, serious consideration was given to creating a computer specialist and computer operator MOS. Many thought that large numbers of these specialists would have to be sprinkled liberally throughout the force to operate the many computers envisioned for transforming the way the Army did business. Of course, the Army came to realize over time, along with American society generally, that computer operator skill sets should be viewed as common skill sets of many jobs rather than well-defined jobs in their own right. On the other hand, the more complex computer maintenance and network management skill sets have evolved largely as distinct jobs.

One might ask similar questions today about the future duties of robotics operators and maintainers. How should they be integrated into the MOS structure? One could include digital equipment operators in this inquiry. Other skill sets apply to the future role of operators, maintainers, planners, and analyzers for the many unmanned aerial vehicles (UAV) planned for the Future Force. Will the associated skill sets evolve into stand-alone MOS, will they become part of the MSS regime of many other MOS (much like Combat Lifesaving has done), will they appear on the master

task lists of many different MOS, or will they eventually become regarded as common skill sets across the force?

A functioning MSS Program for IET can render the Army a valuable tool for low-risk and low-cost experimentation in considering alternative job structures, particularly as new skill sets start to coalesce or as existing skill sets begin to mutate. In this way, an MSS program could serve as a test bed for different combinations of skills sets for future MOS construction.

For example, a new MSS skill set can be introduced into IET to see whether it works as an MSS skill set, whether the skill set should be added to the master task set of the primary MOS involved, or whether the skill set should be expanded to form its own separate MOS. Having an MSS program in IET enables the branches and training centers to experiment with these possibilities, with a well-oiled evaluation process in place to generate and assess feedback from the field. Such feedback should provide an informed basis for decision making relative to shaping new MOS and adjusting old ones.

Figure 6 illustrates this approach using an IET class for notional MOS X. In this example, four skill sets were initially trained under the auspices of the MSS program. Based on feedback from the field, the affected branch decided to incorporate the tasks associated with Skill Set 1 into primary MOS X, even though the tasks involved were previously considered to belong largely to another MOS. In this case, the branch determined that all MOS X Soldiers must be proficient on these tasks in order to perform their jobs effectively in Future Force units. Continuing this example, Skill Set 2 has recently expanded based on feedback from the field and is being scrutinized as a candidate to become a stand-alone MOS in its own right. Skill Set 3 involves performance of tasks that are needed less and less due to modernized equipment entering the force and due to changes in operational concepts. It is being evaluated for possible deletion from the MSS program. Skill Set 4 represents emerging skill sets that are associated with new kinds of equipment entering the force and new tactics, techniques, and procedures for employing that equipment. The branch has taken the initial position that a portion but not all IET Soldiers in MOS X must become proficient in performing the tasks. In this example, it is assumed that the tasks involved are so new and that they have not yet become associated with any single branch or MOS.

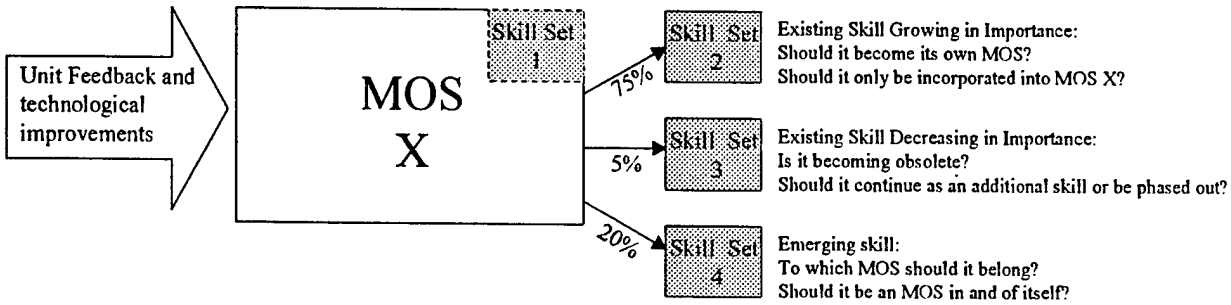

Figure 6. Using MSS training in IET as an experimental test bed

CONCLUSIONS AND RECOMMENDATIONS

Consistent with generally accelerated transformation efforts, the Army is now well postured to broaden its search for a conceptual foundation to support the human dimension of the Future Force. While the conclusions and recommendations in this section reflect this report's primary focus on investigating the applicability of the MSS Concept to the SBCTs, they have been reached with an eye toward framing actionable options that contribute meaningfully to the evolution of the Future Force.

Conclusions

1. **The MSS Concept remains a highly ambiguous and imprecise notion across the Army, even though Soldier multi-skilling is regularly touted in design documents as a fundamental attribute of the Future Force Soldier. Different people interpret the MSS Concept in quite different ways because there is no authoritative definition.** There is general consensus among key participants that Future Force Soldiers will have to be multi-skilled and that they must contribute effectively to high-performance, multi-functional units. However, there is no authoritative working definition of the Multi-Skilled Soldier, no layout of expectations in Future Force requirements documents, and no integrated implementation planning in place or under development. Providing an authoritative definition and implementing concept for the MSS would generate considerable momentum toward developing an integrated, in-depth approach to the larger human dimension constructs of the Future Force. Absent an approved concept, thinking and planning will likely remain contentious, unfocused, and chaotic.

2. **The MSS Concept, as envisioned by the ST for IET, is fully applicable to the SBCT and would significantly enhance unit training and readiness postures.** At the visited SBCT, the ST found considerable enthusiasm for, and support of, the proposed scheme for establishing an MSS program in IET. SBCT leaders believed that such a program would significantly improve operational depth and redundancy in critical cross-MOS skilling and increase the time available for collective training, thereby contributing directly to mission readiness. Alternate approaches to multi-skilling were explored by SBCT senior NCOs but ultimately considered inferior to the proposed MSS program. Those leaders could see nothing but benefits from establishing such an MSS program, even if it involved delaying IET graduates from joining their follow-on operational units by up to two weeks.

3. **Most of the challenges and obstacles to implementing the MSS Concept in IET reside in the training base.** The chief challenges are the resource costs and the potential for requiring increased time in IET, issues predominantly impacting the training base. However, there are design options that could mitigate these

challenges. While start-up costs may be high, operational costs should be well within reasonable limits. Most of the equipment end items and training aids are already abundantly in the inventory. Contract personnel could conduct the training, eliminating the need for additional military slots. SBCT leaders saw nothing but positive impacts.

4. **The MSS Concept, if implemented in IET, would have an immediate, positive effect on unit training and readiness across the Total Force.** The proposed prototyping scheme is grounded solidly in feedback from the interviewed SBCT leadership. It focuses on the skills that its NCOs judged would most enhance their training readiness posture, both in garrison and on deployment in austere environments lacking installation-like training support capabilities. IET graduates joining deployed units in remote areas would be more capable of contributing to mission performance upon arrival; they would come with apprentice-quality proficiency in the hard-to-train non-primary MOS skill needed broadly across the unit. Somewhat surprisingly to the ST, most NCOs even stated their willingness to trade off some IET training in primary MOS tasks to gain Soldier proficiency in many of the MSS skill sets. Since the MSS skill sets apply generally across the Army, an MSS program in IET oriented on the SBCTs would benefit the entire force. Keeping unit-specific training in AOT apart from MSS training ensures that MSS training will have a universal impact on the Army, including the Reserve Components.

Recommendations

1. **Adopt the proposed MSS definition and associated MSS Concept as a starting point for action.** This step is a fundamental prerequisite to drive conceptual unity of effort and actionable options regarding future requirements for "multi-skilling." It is also key and essential to frame comprehensive planning for integrated concept implementation. This action would also allow the Army to address MSS requirements at greater length and with greater clarity in Future Force documents.

2. **Consider applying the prototyped MSS design for IET developed in this study for the SBCT more generally across the Current Force.** The MSS design supports not only the SBCT, but also the needs of the rest of the Current Force. By its nature, the SBCT is currently closer to the rest of the Current Force in terms of its training and operational needs than it is to the Future Force. The proposed SBCT prototype for MSS developed in this report fully applies to Current Force units as well, including those of the U.S. Army Reserve and the Army National Guard.

3. **Design and implement a pilot program for IET to test and refine the MSS Concept and to develop solutions to the challenges and obstacles faced by the training base.** The Army will not fully appreciate the extent to which an MSS program in

IET is value-added until significant numbers of Multi-Skilled Soldiers are trained, sent to operational units, and evaluated. Controlled testing will drive refinements and adjustments at a reasonable cost that would later enable a smoother general implementation across the training base.

4. **Develop a Master Implementation Plan that incorporates the MSS Concept into IET.** This Implementation Plan should be based on experience gained through one or more MSS pilot programs with particular emphasis on IET.

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APPENDIX A - LIST OF ABBREVIATIONS AND ACRONYMS

1SG	First Sergeant
.50 cal	M-2 .50 Caliber Machine Gun
ASI	Additional Skill Identifier
ANCD	Automated Network Control Device
ANCOC	Advanced Non-Commissioned Officer Course
ARI	U.S. Army Research Institute for the Behavioral and Social Sciences
AOT	Assignment Oriented Training
ASIP	Advanced System Improvement Program
BNCOC	Basic Non-Commissioned Officer Course
BCC	Brigade Coordination Cell
BSB	Brigade Support Battalion
CA	Combat Arms
CLS	Combat Lifesaver
CMF	Career Management Field
CASCOM	Combined Arms Support Command
CGSC	Command and General Staff College
COMSEC	Communications Security
CPR	Cardiopulmonary Resuscitation
CS	Combat Support
CSM	Command Sergeant Major
CSS	Combat Service Support
DA	Department of the Army
DI	Drill Instructor
EPLRS	Enhanced Position Location Reporting System
FY	Fiscal Year
FBCB2	Force XXI Battle Command Brigade and Below
FLOT	Forward Line of Own Troops
FLA	Front Line Ambulance
GPS	Global Positioning System
HEMTT	Heavy Expanded Mobility Tactical Truck
HMMWV	High Mobility Multi-Purpose Wheeled Vehicle
IET	Initial Entry Training
IMT	Initial Military Training
INC	Internet Controller
IV	Intravenous
kw	Kilowatt
LAN	Local Area Network

LO	Lubrication Order
MACOM	Major Army Command
MK-19	Mark-19
MOS	Military Occupational Specialty
MTOE	Modified Table of Organization and Equipment
MLRS	Multiple-Launch Rocket System
MSS	Multi-Skilled Soldier
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, Chemical
NCO	Non-Commissioned Officer
NORAD	North American Aerospace Defense Command
OF	Objective Force
OIF	Operation Iraqi Freedom
PPD	Personnel Proponency Directorate
PERSTEMPO	Personnel Tempo
PLGR	Precision Lightweight GPS Receiver
PMI	Preliminary Marksmanship Instruction
PMCS	Preventive Maintenance Checks and Services
PSG	Platoon Sergeant
RTO	Radio Telephone Operator
RSTA	Reconnaissance, Surveillance & Target Acquisition
SAW	Squad Automatic Weapon
SBCT	Stryker Brigade Combat Team
SGM	Sergeant Major
SINCGARS	Single Channel Ground and Airborne Radio System
SITREP	Situation Report
SME	Subject Matter Expert
ST	Study Team
TAMMS	The Army Maintenance Management System
T&E	Traversing and Elevation Mechanism
TI	Technical Inspection
TM	Technical Manual
TTHS	Trainees, Transients, Holdees, and Students
TRADOC	U.S. Army Training and Doctrine Command
ULLS	Unit Level Logistics System
UA	Unit of Action
UAV	Unmanned Aerial Vehicle
UIC	Unit Identification Code

APPENDIX B - NAMES OF SELECTED MOS BY FUNCTION

The purpose of listing MOS in Tables B-1, B-2 and B-3 below is to provide a quick reference of job titles while reading the Study Report. These MOS were the mainstream MOS of the SBCT at the time the ST conducted interviews. Since those interviews, the Army has restructured and renamed some of these MOS. This restructuring does not make the conclusions of this study obsolete for two reasons: First, restructuring does not occur immediately and second, because the restructuring does not completely phase out the skills of the MOS used in the prototype. Name and CMF changes are the extent of the restructuring.

Table B-1
Combat Arms MOS of the SBCT[24]

MOS	Title
11B	Infantryman
11C	Indirect Fire Infantryman
12B	Combat Engineer
13B	Canon Crewmember
13D	FA Automated Tactical Data Systems Specialist
13F	Fire Support Specialist/Radio Telephone Operator
13R	FA Firefinder Radar Operator
19D	Cavalry Scout
19K	Gunner/IAV Driver
82C	FA Surveyor
93F	FA Meteorological Crewman

Table B-2
Combat Support MOS of the SBCT

MOS	Title
31C	Radio Operator Maintainer
31F	Network Switching Systems Operator/Maintainer
31P	Microwave Systems Operator/Maintainer
31R	Multichannel Transmission Systems Oper/Maint
31U	Signal Support System Specialist
33W	MI Systems Maintainer/Integrator
35E	Radio Communications Security Repairer
35F	Special Electronic Devices Repairer

[24] All MOS titles listed were found on the Army Homepage (www.army.mil).

35M	Radar Repairer
54B	NBC Specialist
55B	Ammunition Specialist
96B	Intelligence Analyst
96D	Imagery Analyst
96H	Common Ground Station Operator
96R	Ground Surveillance Systems Operator
96U	Tactical UAV Operator
97B	Counterintelligence Agent
97E	Human Intelligence Collector
98C	Signal Intelligence Analyst
98H	Communications Locator/Interceptor

Table B-3
Combat Service Support MOS of the SBCT

MOS	Title
27D	Paralegal
27E	Land Combat Electronic Missile System Repairer
44B	Metal Worker
45B	Small Arms/Artillery Repairer
45G	Fire Control System Repairer
45K	Armament Repairer
52C	Utilities Equipment Repairer
52D	Generator Mechanic
56M	Chaplain Assistant
62B	Construction Equipment Repairer
62E	Heavy Construction Equipment Operator
62J	General Construction Equipment Operator
63B	Light Wheel Vehicle Mechanic
63J	Quartermaster and Chemical Equipment Repairer
71L	Mail Delivery Clerk
74B	Information Systems Operator
75B	Personnel Service Specialist
77F	Petroleum Supply Specialist
77L	Petroleum Laboratory Specialist
77W	Water Treatment Specialist
81T	Topographic Analyst

88M	Motor Transport Operator
88N	Transportation Management Coordinator
91A	Medical Equipment Repairer
91E	Dental Specialist
91G	Patient Administration Specialist
91J	Medical Supply Specialist
91K	Medical Laboratory Specialist
91P	Radiology Specialist
91S	Preventative Medicine Specialist
91W	Health Support Specialist
91X	Mental Health Specialist
92A	Automated Logistical Specialist
92G	Food Service Operations
92Y	Supply Specialist/Armorer

APPENDIX C - OVERVIEW OF ADDITIONAL SKILLS

The purpose of this appendix is to provide a descriptive outline of the capabilities produced in each 2 ½ week MSS course, if implemented in IET. The goal of each course is to produce apprentice-level knowledge in each Soldier through hands-on, performance oriented training. The skill sets outlined in this appendix were derived from the research and interviews conducted throughout the study. They provide an overview of the types of skills to be taught for each skill set, but do not break them down into tasks, conditions and standards, as this was beyond the scope of the study. The first phase of an MSS pilot program in IET would require tasks, conditions and standards to be developed for each of these skill sets:

1. Combat Lifesaver Training
2. Driver Training
3. Communications Operator Training
4. NBC Group Survival Training
5. Advanced Weapons Training
    a. .50 cal
    b. SAW and MK-19
    c. M240 and MK-19
6. Unit Armorer Training
7. Land Navigation Training
8. Call for Fire Training
9. Unit Movement Training
10. Generator Operator Training

Combat Lifesaver Training

Currently, the Combat Lifesaver Certification is a 40-hour standardized Army program. It covers Buddy-Aid tasks, such as performing first-aid and individual preventive countermeasures, as well as more advanced skills such as initiating an intravenous (IV) and responding to more severe injuries (DA, 1993). The MSS version of this course would lengthen the time period from 40 hours to about 80 hours. The additional week would be spent practicing the concepts learned in the first 40 hours. Though repetitive, interview respondents who were familiar with this training program stated that 40 hours was barely enough time for training Soldiers in CLS skills. The result is familiarization rather than proficiency. For this reason, coupled with the fact that these Soldiers would be very new to the military, an additional week is recommended for CLS training. The extra time would provide the additional time for continuous, performance-oriented practice of the core concepts.

Below are the capabilities a Soldier will have a solid understanding of upon completing the Combat Lifesaver Multi-Skilled Soldier course. These capabilities are based on the current CLS course:

- Administer "Buddy Aid"
- Administer Individual Preventive Measures / Countermeasure
- Administer First Aid and Cardiopulmonary Resuscitation (CPR) for choking, bleeding, wounds, shock, suspected breaks/fractures, burns, heat/cold injuries, nerve agent injury, chemically contaminated, and combat stress
- Safely transport casualties physically and in a military vehicle
- Perform an advanced evaluation of a casualty
- Initiate an IV
- Measure and monitor a pulse and respiration
- Apply splints to breaks and fractures
- Insert a temporary airway

Driver Training

Currently, most installations have Driver Training classes for licensing Soldiers on the primary vehicles in their units. For integration into the MSS program, the same course structure would be applied to IET, but extended in length of time. Instead of the typical 40-hour block of instruction, the course would be 2 - 2 ½ weeks long, or around 80-85 hours. This additional length of time would provide more opportunities for Soldiers to move beyond familiarization to proficiency in the HMMWV and progress to learning the basics of the M939 Series Cargo Truck (5-Ton). The outline below shows the skills for both the HMMWV and the 5-Ton. These skills are based on the current Driver Training program (DA, 1997).

With a **HMMWV**, the Soldier will have the ability to:

- Use a Technical Manuals (TMs), understand Lubrication Orders (LOs), and properly fill out a DA Form 2404 and DD Form 1970
- Understand safety rules
- Understand procedures for driving under adverse road conditions
- Identify instruments, controls, indicators, and equipment on the HMMWV
- Perform operator (before and after) Preventive Maintenance Checks and Services (PMCS)
- Operate a HMMWV during the day and night
- Drive a HMMWV off road over rough and unusual terrain
- Obtain a military drivers license for a HMMWV

With a **5-Ton**, the Soldier will have the ability to:

- Recognize the 5-Ton series
- Be familiar with the 5-Ton Technical Manual
- Be familiar with the operator (before and after) PMCS
- Identify Cab Controls, Instruments, and Indicators
- Operate a M939 Series Cargo Truck during the day

Communications Operator Training

For non-Signal and Communications MOS, speaking on a radio could seem very intimidating to new Soldiers. The purpose of this training block would be to give Soldiers confidence in basic communications equipment through in-depth hands on training in the basics of signal flow, duties of an RTO and how to use the SINCGARS, ASIP, and FBCB2 equipment. Some prior consideration would have to be given to resolving the security clearance problems associated with elements of these types of equipment.

Below are the capabilities a Soldier will have a solid understanding of upon completing the Communication Skills Multi-Skilled Soldier course. Skills are taken primarily from the 31U MOS Soldiers Manual (DA, 2001).

- Understand the fundamentals of signal flow to include:
  - How information flows
  - Types of communications equipment and basic functions (for example, what a modem does)
  - How to quickly understand new digital equipment by looking at its signal flow
  - How to troubleshoot using signal flow

- Understand RTO procedures to include:
  - Talking on a radio
  - Using call signs
  - Types of reports (Situation Reports (SITREPs), Calling for Fire, etc...)
  - How to send reports

- Understand SINCGARS / ASIP radio operations to include:
  - Basic installation and set-up
  - How to use single channel
  - How to frequency hop (basics of the ANCD, transporting and loading communications security (COMSEC), and establishing a secure link)
  - Basic troubleshooting and equipment repair

- Understand the FBCB2 System to include:
  - AN/UYK-128(V) computer
  - Operational software
  - The PLGR
  - The SINCGARS/ASIP
  - The Enhanced Position Location Reporting System (EPLRS)
  - The Internet Controller (INC)
  - Assemble and dissemble the FBCB2 System

- Understand the FBCB2 Systems' role-based functionality
- Understand system security
- Understand software functionality
- Understand basic operations
- Understand operating procedures
- Understand how to prepare the FBCB2 System for movement
- Perform NBC decontamination procedures for the FBCB2 System
- Process a basic understanding of troubleshooting procedures
- Perform PMCS procedures

NBC Group Survival Training

As the threat for Nuclear, Biological, and Chemical attacks becomes increasingly more relevant, so does the need for increased subject matter experts on NBC. Soldiers that have increased NBC knowledge are key to a unit. Since all units have NBC teams, Soldiers with apprentice NBC skills will be able to assist the unit NBC NCO immediately. The capabilities the Soldier will learn in the MSS program will provide a solid foundation of the importance of formidable NBC skills for all personnel. Below are the capabilities a Soldier will have a solid understanding of upon completing the NBC Multi-Skilled Soldier course, based on the NBC Field Training Manual (DA, 1992).

The Soldier will have the ability to:

- Understand the mission and responsibility of a unit's three NBC teams
  - Chemical Monitoring and Surveying Team
    - Detect and identify chemical agents, employing the chemical agent detector kit and other available means
    - Report the location of any contaminated area(s) to the unit's headquarters
    - Mark the contaminated area(s) promptly with the standard marking system
    - Take samples of suspected biological contamination and forward as directed
  - Radiological Monitoring and Survey Team
    - Determination of contaminated areas
    - Determination of levels of communication
    - Determination of the radiation level of specific objects, locations or regions which are of special interests to the unit
    - Determination of the location of hot spots
    - Marking of contaminated areas and materials
    - Maintenance of radiological survey equipment
  - Decontamination Team
    - Perform necessary second echelon decontamination of unit supplies, equipment and small areas as promptly as practical
    - Ensure that all unit decontamination equipment is kept in serviceable condition at all times
    - Supervise the decontamination of unit equipment and small areas when personnel other than team members are performing the decontamination
    - Monitor contaminated areas, objects and personnel before, during and after decontamination with chemical and radiation equipment to determine the need for and effectiveness of decontamination

- Assist in supervising decontamination procedures and techniques of decontaminating areas and equipment

- Assist in supervising cleaning, maintaining, and changing the filter for the M-40 Series Protective Mask

Advanced Weapons Training

Advanced weapons training would have several different tracks including the Browning Machine Gun caliber .50 HB (.50 cal), the M249 Light Machine Gun, the MK-19 Grenade Machine Gun, and the M240 Machine Gun. Training a Soldier on all of these weapons in a 2-2 ½ week time period would be unrealistic. Therefore, determining which MOS should receive which type of advanced weaponry training would have to be further researched in Phase I of a pilot program with recommendations coming from previous sections in this Study Report. In order to facilitate the training development in the weapons mentioned, the outlines below show what basic topics for each weapon would have to be covered at a minimum. .

The topics for the .50 cal course are drawn from a field manual (DA, 1991).

- The Soldier would be familiar with:
  - Ground and vehicular mounts
  - Ammunition classification
  - Ballistic data
  - Care, handling, and preservation
  - Storage

- The Soldier would be able to:
  - Assemble, dissemble, and perform functions check
  - Perform cleaning, inspection, and lubrication procedures
  - Perform maintenance procedures (including under NBC conditions)

- Perform Operations to include:
  - Loading and unloading
  - Cycle of functioning
  - Headspace and timing
  - Malfunctions, stoppages, and remedial and immediate action

- Understand and perform the fundamentals of firing:
  - Firing positions
  - Range determination
  - Observation and adjustment of fire
  - Fire command
  - Crew exercises and drills
  - Qualify on the weapon

The topics for the M249 course are drawn from a field manual (DA , 1994).
The Soldier would be familiar with:

- Weapon Components
- Ammunition
- Blank firing attachment
- Assemble, dissemble, clearing procedures, and functions check

- The Soldier would be able to:
  - Perform cleaning, inspection, lubrication, and preventative maintenance procedures
  - Perform maintenance procedures before, during and after firing
  - Perform maintenance under NBC conditions

- Understand and perform operations functions to include:
  - Loading and unloading
  - Cycle of functioning
  - Sight setting and corrections
  - Bipod positioning
  - Malfunctions, stoppages, and immediate / remedial actions

- Understand and perform marksmanship
  - Accurate initial burst, adjustment of fire, and speed
  - Fundamentals of marksmanship
    - Firing positions
    - Night fire
    - NBC fire
    - Moving targets
    - Traverse and search
  - Direct lay
  - Application and adjustment of fire
  - Effects of wind

- Qualify on the weapon

The topics for the MK-19 course are drawn from a field manual (DA, 1988).
The Soldier would have the ability to:

- Understand and perform operations functions to include:
  - Clearing
  - Assembly and disassembly
  - Loading
  - Operating procedures
  - Cycle of operation
  - Malfunctions and corrections

- Recognize ground and vehicular mounts
  - MK 64, Mod 7, Gun Cradle
  - Ground-mounting, M3 Tripod
  - Vehicle-mounting

- Perform crew drills to include:
  - Formation for crew drills
  - Inspection of equipment
  - Placing the MK-19 into action / Taking the MK-19 out of action
  - Carrying the tripod mounted MK-19

- Understand the techniques of fire
  - Characteristics of fire
  - Classes of fire
  - Measurement by visual estimation, by a map, by pacing, using binoculars, using AN/GVS-Laser Range Finder, by firing, and by lateral distance
  - Fire control and commands
  - Target engagement
  - Predetermined fires
    - Traversing and Elevating (T&E) mechanism and field-expedient method of laying the MK-19

- Understand and perform marksmanship
  - Firing and fighting positions
  - Traversing bar and T&E mechanism
  - Filling out a range card
  - Zeroing
  - Observation and adjustment for fire

- Qualify on the weapon

The topics for the M240 course are drawn from a field manual (DA, 2003).
The Soldier would have the ability to:

- The Soldier would be familiar with:
  - Components
  - Ammunition
  - Ammunition adapter
  - Blank firing attachment
  - Clearing procedures
  - Assembly, disassembly, and functions check
  - Inspection
  - Cleaning, lubrication, and preventative maintenance
  - Maintenance procedures (including during NBC conditions)

- Understand and perform operation functions
  - Operation
  - Loading, unloading, malfunctions, and stoppages
  - Cycle of functioning
  - Use of sights
  - Bipod and M122A1 tripod operations
  - Immediate and remedial action
  - Stuck barrel

- Understand and perform marksmanship
  - Fundamentals
  - Firing positions
  - Engagement of moving targets
  - Traverse and search
  - Direct lay
  - Application of fire
  - Fire adjustment
  - Effects of wind
  - Fire commands
  - Machine gun range layout
  - Basic machine gun target
  - Target analysis
  - Changing barrels (bipod and tripod)
  - Place and remove from action (bipod and tripod)

- Qualify on the weapon

Unit Armorer Training

The purpose of a Unit Armorer course is to train Soldiers on how to function in an arms room with basic small arms equipment such as the M9 pistol, M16 Rifle or M4 Carbine, M203 Grenade Launcher, SAW, dismounted .50 cal., and M240 Machine Gun. The Soldier would specifically learn how to perform weapons maintenance administration and supervision procedures, perform organizational maintenance of weapons and understand the mechanics of supply in order to account for weapons and order new parts. The purpose of this course is to provide the unit with a Soldier who has the basic, apprentice-level understanding of the duties of a Unit Armorer, but with the ability to become qualified as a unit armorer as needed.

Below are the capabilities a Soldier would have a solid understanding of upon completing the Unit Armorer Multi-Skilled Soldier course, based on a Supply and Services Field Manual (DA, 2000).

The Soldier would have the ability to:

- Understand the duties of an armorer, to include inspection policies and standards
- Understand the process for providing security and administration to an arms room
- Understand the process for Maintenance Administration and Supervision
- Perform organizational maintenance, disassembly, inspection, troubleshooting, and diagnosis on the M16A2 rifle
- Perform organizational maintenance, disassembly, inspection, troubleshooting, and diagnosis on the M9 Pistol
- Perform organizational maintenance, disassembly, inspection, troubleshooting, and diagnosis on the M249 Machine Gun
- Teach and supervise weapons operating techniques, care and use of tools, and firearms safety
- Monitor publications management
- Understand the Army Maintenance Management System (TAMMS) as it applies to the armorer
- Conduct Technical Inspections (TI)

The Soldier would also have the ability to:

- Operate the Unit Level Logistics System (ULLS) for arms room related duties to include:
  - Repair parts transactions
  - Maintenance work orders
  - Maintenance of historical records
  - Equipment usage, fault, modification, and forecast reports
  - Subhand-receipts

- Component lists
- Shortage annexes
- Material readiness reporting
- Asset visibility

Land Navigation Training

Land Navigation skills were once associated only with Combat Soldiers, however as the battlefield becomes more asymmetric and Soldiers of all functions begin to roam the battlefield, land navigation has become a skill that is essential to the survival of all. Soldiers need to understand how to read a map and navigate through the terrain they are assigned to fight on. Lost Soldiers are dead Soldiers. Providing young Soldiers the necessary navigation skills will make them an immediate asset to their units.

Below are the capabilities a Soldier will have a solid understanding of upon completing the Land Navigation Multi-Skilled Soldier Course, based on a Land Navigation Field Manual (DA, 2001).

The Soldier will have the ability to:

- Demonstrate basic map reading skills, to include:
  - Marginal information and symbols
  - Grids
  - Scale and distance
  - Direction
  - Overlay
  - Aerial photographs

- Recognize and properly use navigation equipment
- Understand elevation and relief
- Perform terrain association with a map and on-the-ground
- Perform dead reckoning
- Qualify on dismounted day and night land navigation
- Familiar with basic land navigation skills using a PLGR
- Familiar with how to establish a unit sustainment program

Call for Fire Training

A forward observer serves as the eyes and ears of the company, and reports back valuable battlefield information to the leadership. This information includes Forward Line of Own Troops (FLOT) location, SITREPs, and spot reports. As Soldiers, particularly CS and CSS Soldiers, become increasingly mobile on the battlefield, the need to call for fire will not always be left up to a forward observer. All Soldiers moving in and around the battlefield need to be able to perform call-for-fire. Based on a Field Artillery Field Manual, (DA, 1990), the Soldier would have the ability to:

- Call for fire
  - Render observer identification
    - Use call signs from the SOI
  - Render warning order
    - Type of mission
    - Size of element to fire
    - Method of target location
  - Render location of target
    - Grid
    - Polar
    - Shift
  - Render description of target
  - Render method of engagement
    - Type adjustment
    - Danger close
    - Mark
    - Trajectory
    - Ammunition
  - Render method of fire and control
    - Method of fire
    - Method of control
- Understand danger close
- Estimate ranges
- Perform range corrections
- Perform deviation corrections

- Determine direction to a target
  - Using a compass
  - Scaling from the map
  - Measuring from a reference point
  - Estimating using other measuring devices

Unit Movement Training

As units train for deployment and operations away from their home station, they must have unit movement teams to prepare their equipment for shipment. Most installations have courses for Unit Movement, however they are geared mostly at the Officer/senior NCO levels of leadership. The Soldiers coming out of the MSS Unit Movement course would be prepared to assist the Unit Movement Officer/NCO in accomplishing his or her duties.

Below are the capabilities a Soldier will have a solid understanding of upon completing the Unit Movement Multi-Skilled Soldier course. Skills are taken primarily from the Unit Movement Operations Field Manual (DA, 2002).

The Soldier would have the ability to:

- Prepare vehicles and equipment for shipment
  - Clean equipment thoroughly
  - Inspect vehicles for defects
  - Stencil vehicles
  - Check and reduce fuel levels
  - Inspect fuel cans
  - Remove / Secure sensitive / classified materials
  - Remove and consolidate hazardous materials
  - Reduce vehicle length, height, and width
  - Secure ignition keys
  - Secure rotating parts
  - Check for "tiedown" devices
  - Protect electronic / commo components
  - Lower cab assembly (if required)
  - Maximize cargo space noting payload capacity
  - Protect from metal-on-metal contact
  - Protect from water damage
  - Secure all loaded equipment
  - Secure the vehicle
  - Document the load
  - Prepare the load card

- Build the 463L Pallet
  - Properly distribute the load
  - Right-side containers / labels facing out
  - Stabilize the load
  - Place and mark hazardous material
  - Protect from moisture
  - Secure the load

- Load equipment and supplies into containers
  - Distribute the weight equally
  - Mark the center of balance
  - Protect from water damage
  - Protect liquids
  - Properly load hazardous material
  - Block and brace the load
  - Document the load

- Prepare hazardous materials for shipment
  - Pack only identified hazardous material
  - Apply the proper markings
  - Apply Unit Identification Code(UIC) (if applicable)
  - Drain and clean combustible containers
  - Secure for corrosion
  - Secure ammunition

Generator Operator Training

Installing and operating a generator is a necessity for units that depend on digital equipment, such as communications shelters, to conduct their missions. While generators are a common item found in the unit, the 52D Generator Mechanic is not as common or in abundance in lower unit levels. Because generators are so critical to mission success, more Soldiers should be multi-skilled in the basics of the proper installation, operation and maintenance of a generator. Though there are numerous Diesel Generators (15-kilowatt (kw), 10-kw, 5-kw, and 3-kw), this course would concentrate on the 15-kw Diesel Generator. All Soldiers would be operator qualified on the 15-kw Diesel Generator.

Below are the capabilities a Soldier would have a solid understanding of upon completing the Generator Operator Multi-Skilled Soldier course, based on a Generator Technical Manual (DA, 1993).

The Soldier will have the ability to:

- Install a 15-kw Diesel Generator set
- Operate a 15-kw Diesel Generator set
- Operate a 15-kw Diesel Generator set in a simulated NBC environment
- Correct malfunctions on a diesel generator engine
- Perform PMCS on the diesel generator set

APPENDIX D - MSS PROGRAM BEST PRACTICES

Table D-1
MSS program best practices

Perception	• MSS should not be confused with MOS Consolidation or AOT. • MSS is not a replacement for unit or installation training.
Selection	• The time in IET should be spent aligning the Soldiers against the MSS areas in which they have the most aptitude and interest. • Soldiers with a high performance in a certain area, should be sent to an equivalent MSS program that matches their talent (e.g. a Soldier with high marksmanship skills should attend Advanced Weapons training.)
Training	• Contractors should be used as instructors. They should also be SMEs. Though capable, Drill Sergeants should not teach these classes. • Up to a 10% rate of failure should be expected to avoid putting pressure on the training base to pass everyone; Training should not be "dumbed down" to enable a 100% passing rate. • The outcome for the Soldier is apprentice level proficiency. Understand that MSS is not the "ultimate" training course, but rather, a foundation the Soldier and unit must build upon. • The Teacher to Student ratio should not be more than 1:8. • Training should be hands-on, performance-oriented. Soldiers will learn by performing the skill repetitively. • Classes should be at least two weeks long at the conclusion of IET to allow for the repetitive training and performance to occur. • IET classes should be divided into 3-5 sub-groups for multi-skilling.
Course Develop-ment	• Operational requirements in the field should be the central and overriding factors in selecting MSS subject areas and in designing the specific skill sets to be trained. • The MSS training program must be flexible and open to improvement. The unit's needs must be the driving force in course development. • MSS training should be designed to apply generically across the Army.
Follow-on	• An Additional Skill Identifier (ASI) type of system should be developed for the MSS and tracked DA-wide. • Soldiers should be given reference packages and encouraged to broaden their skills once at their units of assignment. • An aggressive evaluation approach should be established to gain timely feedback from operational units on the effectiveness and desired content of MSS training.

APPENDIX E - CONCLUSIONS AND RECOMMENDATIONS FROM PHASE I

Table E-1
MSS Phase I conclusions and recommendations

Conclusions	Recommendations
There is no official consensus or definition of the MSS relating to the requirements of the Objective Force (OF).	The Army should expeditiously and authoritatively define the MSS Concept.
There is no integrated planning underway for comprehensive MSS implementation.	The Army should expeditiously establish overall proponency for MSS realization, select a corresponding course of action from among several candidates, and put an integrated master implementation plan in place.
Most of the discussions about the MSS Concept have oriented on the needs of the OF.	The Army should structure MSS implementation and sustainment for optimal and parallel benefit of the Interim and Legacy Forces.
The MSS Concept involves issues of human cognitive potential and associated practices that have not been adequately researched for the peculiar requirements of the OF.	The Army should conduct the necessary research and analysis projects, inclusive of behavioral research, to implement the MSS Concept effectively and efficiently.